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A role analysis of Iowa farm families: occupational aspirations for children, job satisfaction, and women's participation in farm work

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**A ROLE ANALYSIS OF IOWA FARM FAMILIES: OCCUPATIONAL
ASPIRATIONS FOR CHILDREN, JOB SATISFACTION, AND WOMEN'S
PARTICIPATION IN FARM WORK**

Iowa State University

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A role analysis of Iowa farm families:
occupational aspirations for children, job
satisfaction, and women's
participation in farm work

by

Lois Malmberg Sabol

A Dissertation Submitted to the
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INTRODUCTION

Important changes are occurring in rural America and within the structure of agriculture. These changes are being felt by the individuals and families involved in farming. The purpose of the introduction to this dissertation is to examine contemporary farm life and to propose a theoretical perspective from which to view the multiple roles of the modern farm family.

Changes in Rural Life

Farming activities, for the most part, take place within a rural context. Recognition of the changing character of the rural scene is an important step in the study of contemporary farm life.

Bealer et al. (1965) have identified three substantive components of the concept, "rural." These are the ecological, occupational, and sociocultural components. In the past, these components were closely related. It may not have been unreasonable to assume that a rural resident lived in an isolated area of low population density, was engaged directly or indirectly in production agriculture, and experienced a relatively homogeneous community with traditional, slow-to-change attitudes and values. This assumption can no longer be made.

The ecological component

First, the ecological aspect of rurality has changed to the extent that many argue the rural/urban dichotomy may no longer be a meaningful distinction (Hawley and Mazie, 1981). Population trends illustrate the blurring of this distinction.

One of the major population trends within the last 60 years has been a rural to urban, nonmetropolitan to metropolitan movement. Between the years 1920 and 1970 the urban share of the total population increased from 51 percent to 73 percent. Of all nonmetropolitan counties, 36 percent lost population in every decade between 1920 and 1950. In the 10 year period between 1950 and 1960, this proportion was up to 60 percent. In addition, the nonmetropolitan population shifted in the direction of the urban areas. However, during the 1970s, reverse migration, i.e., urban to rural, occurred in some counties, especially those with recreational or industrial opportunities and those surrounding urban centers (Hawley and Mazie, 1981).

Particularly significant for the rural/urban dichotomy is the fact that along with the general rural to urban move has come a deconcentration of the urban population. Suburbs and surrounding areas are growing at a much faster rate than cities. As early as 1920, the suburban terri-

tories surrounding cities of 50,000 or more population were growing at rates three times as high as the growth rates of the cities. The trend continues and has spread to the rural areas surrounding the suburbs. Hawley and Mazie (1981) state that the net effect of these diverse trends has been the creation of a new kind of urban unit and a loss of meaning for the rural/urban dichotomy.

Even in those areas where relative isolation continues to exist, the effects have been ameliorated. Improvements in transportation and communication have minimized isolation even in remote areas.

The occupational component

The occupational component of rurality has also changed. In the past, most rural residents were involved, if not directly, then indirectly, in agricultural activities. The economic base of most rural towns depended upon agriculture. A large proportion of rural residents were farmers. In 1920, the farm population made up 30 percent of the total U.S. population. By 1970, this proportion was down to 5 percent, and by 1981, it was only 2.6 percent (U.S. Department of Agriculture, 1982).

Nonfarm opportunities have increased relative to farm opportunities. Industry has moved from urban centers to outlying and rural areas. During the 1970s, industrial

opportunities, especially in service-oriented industries, grew in rural areas (Falk, 1982). While some industries and services have subsequently moved elsewhere in pursuit of cheap available labor and others have been hurt by the farm crisis, the fact remains that rural America is no longer overwhelmingly agricultural.

The sociocultural component

The sociocultural aspect of rurality has also changed. The rural sociocultural milieu has generally been viewed as composed of traditional, slow-to-change attitudes and values, characterized by face-to-face relationships and little specialization of labor (Bealer et al., 1965). While this may still be true to some extent, the changes in the ecological and occupational components have had implications for the sociocultural dimension.

Family life is an important aspect of this component. As early as 1964, Burchinal concluded that the rural family was following the same normative trends as the urban family but was changing at a slower rate. These trends are occurring in a number of areas including divorce rates, fertility rates, and sex-roles (Smith and Coward, 1981).

However, in spite of his conclusion that the rural and urban family were converging, Burchinal did point out

that changes in rural family patterns do not occur only through the diffusion of urban family patterns. It would be misleading to suggest that a time lag is the only difference between the urban and rural family.

Smith and Coward (1981) have noted that space relationships continue to produce differences between families in rural and urban settings. While advances in communication and transportation have mitigated the effects of space, distance to friends, school, kin, shopping, and services continues to be a factor in rural life. Further, for those who desire isolation, it may still be more easily attainable in rural areas than in areas of higher population concentration.

The relationship between the people and the land also continues to differentiate between the rural and urban family (Smith and Coward, 1981). The character of the land and climate may be a more salient feature of daily life for rural residents than for urban dwellers.

Rural families may also be more likely to be tied to the home than are urban families. Those with animals to care for, whether hundreds of head of cattle or two horses, are not as free as others to vacation or even stay in town for dinner. Those who must travel a long distance for entertainment and recreation may be more likely to decide to remain at home.

While many similarities exist between the rural and urban family, and in general, the rural family is changing along the same lines as the urban family, the distinction still appears to be significant. The farm population and farm family have experienced important changes in rural life but have also been faced with changes in the structure of agriculture.

The Changing Structure of Agriculture

American production agriculture has experienced sweeping change in recent years. These changes have occurred in almost every aspect of farming and have had a significant impact on the individuals and families involved.

Number and size of farms

One of the most visible changes in the structure of agriculture involves a long-term decline in the number of farms. In 1930, the number of U.S. farms peaked at 6.5 million farms. Since that time the number has continuously declined. Rapid decreases occurred in the 1950s and 1960s, and by 1980, the number of U.S. farms had been reduced to 2.4 million (U.S. Department of Agriculture, 1982).

At the same time that the number of farms has been declining, the size of farms has been increasing. The

size of the average American farm in 1930 was 157 acres. By 1978, this figure was up to 415 acres (U.S. Bureau of the Census, 1981). Also during this time, large farms tended to get even larger. Between the years 1930 and 1974, the average farm of 1,000 acres or more doubled in size (Wilkening, 1981b).

Differences between large and small farms have intensified to the extent that writers have termed the present structure of agriculture "dualistic" (Buttel, 1982; 1983; Coughenour and Swanson, 1983). A small number of large-scale farms are responsible for an increasing proportion of the nation's agricultural products and sales while the vast majority of farms are small-scale operations responsible for a much smaller proportion of products and sales. Currently, $4\frac{1}{2}$ percent of U.S. farms produce almost half of all farm products and account for about two-thirds of total farm income (Allen, 1985). However, the majority of American farms remain relatively small-scale producers. Nearly three-fourths gross less than \$40,000 annually while half annually gross less than \$10,000. As a group, these small-scale farms earn a mere $1\frac{1}{2}$ percent of all farm income and produce less than one-fifth of the nation's agricultural products (Allen, 1985).

Changes in capital requirements, operating costs,

and income generated from farm sales have been major forces behind the increasing dualism of the agricultural structure. In 1920, the average value of the land and buildings on a U.S. farm was approximately \$20,000. By 1974, the average value was almost \$150,000 (Wilkening, 1981b). Between the years, 1974 and 1978, the average value of land and buildings per acre rose from \$336 to \$628 (U.S. Bureau of the Census, 1981). Recent dramatic declines in land values have contributed to a crisis situation for those heavily invested in land.

Operating costs have also risen dramatically, while income from farm sales has not kept pace. In 1982, the ratio of prices received to prices paid was 58, down from 62 in 1981, which was down from 65 in 1980 (U.S. Department of Agriculture, 1983). In light of the growing capital requirements and costs of production, along with the inability of farm sales to keep pace, it is clear that it is becoming increasingly difficult for farm operators to balance costs and profits and to remain in business. It has been estimated that the average farm business clears a net cash profit of only approximately \$3,800 per year (Larson, 1981). These difficulties have intensified over recent years during the current farm crisis. Large operators may be better able to compete profitably in capital intensive agriculture. Small farm operations

must work to minimize costs and maximize gains but are also increasingly relying on nonfarm income.

Labor patterns

Changes in labor patterns are evident both on the farm and in participation in off-farm labor. The percentage of farm labor that is family labor has increased, particularly the percentage that the wife performs (Wilkenning, 1981b). This is, of course, partly due to technological advances which have reduced labor needs and physical strength requirements. This is also a reflection of the dualistic structure of agriculture. The majority of farms are small family operations unable to afford hired labor. Larger farms tend to concentrate their efforts in capital intensive practices.

Another important trend in labor patterns and cited as one of the most dramatic changes taking place in American agriculture is the extent to which members of farm families are seeking off-farm employment (Carlin and Ghelfi, 1979). According to Banks and Kalbacher (1981), 55 percent of farm operators rely on some off-farm work. Jones and Rosenfeld (1981) found that in 26 percent of sampled farm families, the husband was employed off the farm. In 13 percent of the families the wife held an off-farm job, and both were employed

off the farm in an additional 18 percent.

Traditionally, part-time farming has been viewed as a means of transition either out of or into agriculture. Families were either building up equity to get established in a farming operation or were saving money in order to make a transition into complete dependence on nonfarm sources of income (Fuguitt, 1959). Today part-time farming is recognized as a permanent feature of modern farm life (Coughenour and Gabbard, 1977; Fuller and Mage, 1976). Nonfarm generated capital is used to finance the farm business as well as to supplement farm income to meet the family's needs (Cavazzani, 1977; Heffernan et al., 1981). In addition, it has been pointed out that a significant number of part-time farmers may be in farming for the nonfinancial rewards available from the farming lifestyle (Coughenour and Gabbard, 1977; Coughenour and Wimberly, 1982).

A System of Roles

The dynamics of life on the family farm may be more easily understood by employing a systems perspective. Flora (1981) has demonstrated that the systems approach can be profitably used in the study of production agriculture. A family farming operation may be seen as the

system. Major inputs to the system are land, labor, management, and capital. These inputs are typically provided by members of the farm household. Major outputs of the system are the agricultural commodities produced. Analysis can be focused on the interrelationships among the parts within the system, i.e., farm workers, or on the interaction of the system with elements in the broader context, such as market factors or public policies.

A system as defined by Buckley (1967), is a set of different things or parts that meet two requirements. First, these parts are directly or indirectly related to one another in a network of reciprocal causal effects. Second, each component part is related to one or more of the other parts of the set in a reasonably stable way during any period of time.

Boulding (1980) has pointed out that the component parts of many systems are not persons, individual humans as such, but rather roles played by persons. Individuals play many different roles throughout their lives or even during the course of a single day. Identification of the elements of a system as roles rather than persons allows for a consideration of the interplay of several of an individual's roles and/or the interplay of one individual's roles with roles held by other persons.

An extension of a concept defined by Pleck (1977)

provides a useful tool for identifying a system composed of roles played by farm family members. Pleck stated that the work and family roles of the husband and wife in a nuclear family form a system of roles. These roles are directly or indirectly related to one another in a network of reciprocal causal effects in a relatively stable way. For example, the husband's work role influences and is influenced by his family role. The wife's work role is influenced by her husband's family role and vice versa. A party's involvement in a role within the system may vary from a high degree of involvement to no involvement. A wife may be highly involved in her family role and not involved in work outside the home. Alternatively, both husband and wife could be involved equally in work and family roles. This system is illustrated in Figure 1.

Boulding (1980) notes that for farm families the relevant system of roles may need to be expanded to include family roles, farm roles, and work roles which are not part of the family farming operation. Participation in off-farm work on the part of one individual may limit that individual's participation in farm work and result in greater inputs of farm labor by another individual in the system. In addition, on many farms, children contribute significant amounts of labor. Their

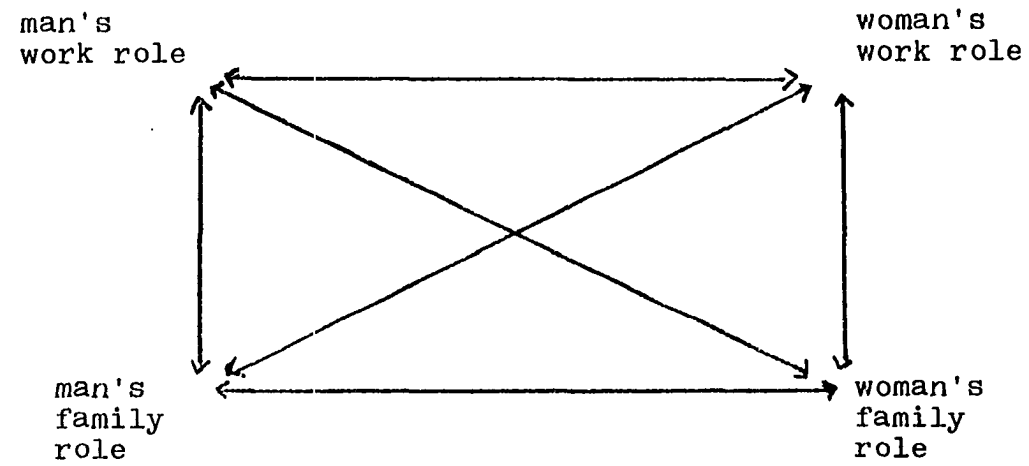


Figure 1. The work-family role system

farm, work, and family roles must be included in the system in order to gain a complete picture of the farm family system. The "work-farm-family role system" is illustrated in Figure 2. The importance of analyzing farm family life as a system of work and family roles may be highlighted by a consideration of the work-family interface.

The Work-Family Interface

As Kanter (1977) points out, the work-family interface has been a neglected area of study. More information is needed on the dynamic intersection of work and family roles. Studies which have been done have tended to investigate the relationships of family variables with general social class and to ignore the relationships of family life with various forms of work. The particular occupations of adult workers may be more important than general social status groupings.

The consideration of the work-family interface may be particularly important to the analysis of contemporary farm family life. Farming is an occupation in which work and family roles are often closely related.

For many occupations the territories of the work organization and the family remain relatively separate. As individuals move between the two, they are expected

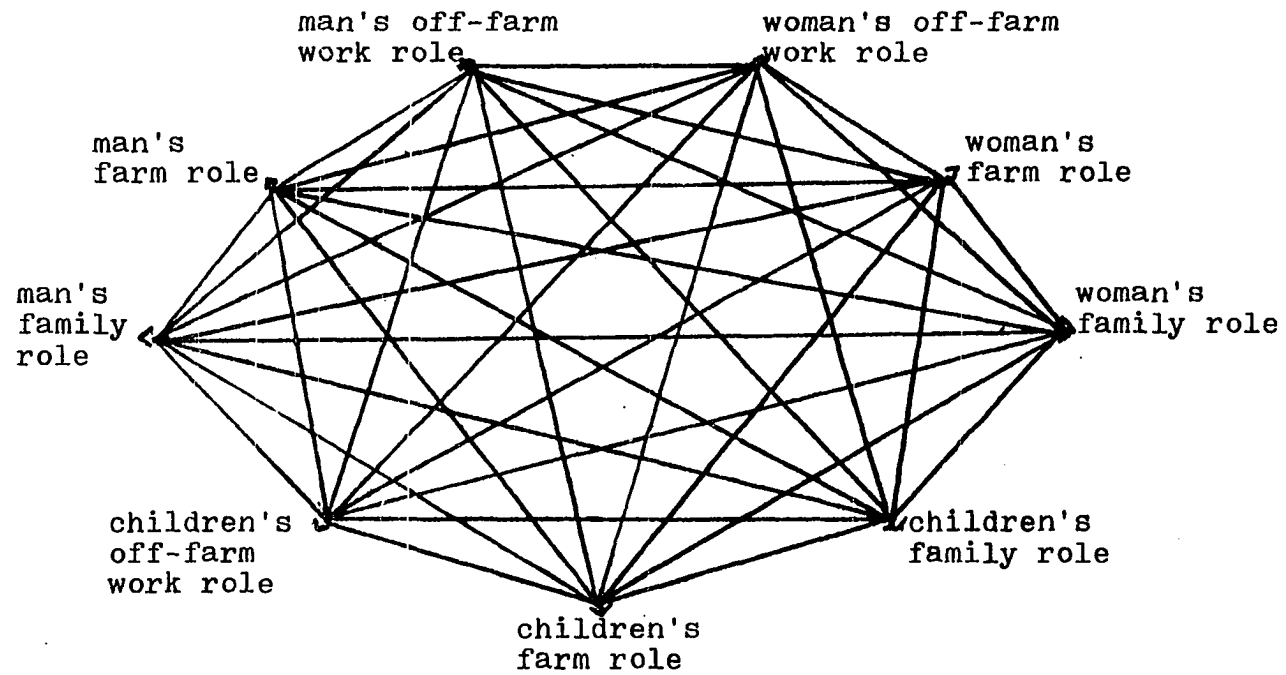


Figure 2. The work-farm-family role system

to act as though the role they are presently in is the only one they have. A common assumption is that employees will not use work time for personal business or family time for work. However, work situations vary in the extent to which this separation of work and family is expected. For other occupations, small businesses, and family proprietorships these territories become blurred. The family farm is one such business. The farm and the family must be considered together.

The reciprocal influence inherent in the work-family relationship is recognized by Kanter. Work affects family life, but family life also affects work.

Work affects family life

Work may affect family life in a number of ways. The particular occupational milieu may be more important than occupational category or class level.

Kanter identifies several aspects of the structure and organization of work which may be important in shaping and influencing family systems. These aspects include:

- 1) the relative "absorptiveness" of the occupation or organization;
- 2) the time involved and timing of work events;
- 3) rewards and resources needed and obtained;
- 4) the occupational culture; and
- 5) the emotional climate of work.

Absorptiveness Relative "absorptiveness" of work refers to the extent to which workers' lives and their families' lives are subsumed by the occupation and/or organization. Kanter states that highly absorptive occupations may be one of the most important areas in which to study the work-family interface. Highly absorptive occupations are characterized by a close connection between work and the family. The worker's effectiveness on the job may depend to some extent on total family effort. In turn, family life is dominated by the occupation. Family members participate in the work either formally or informally. Whether or not a spouse seeks a job of his or her own may be influenced by the alternate spouse's work. Highly absorptive occupations may also involve physical arrangements keeping the home and workplace together.

Highly absorptive occupations include the military, the clergy, and farming. Small family farm firms are likely to be highly absorptive. While the husband/father is generally considered the farmer, the wife and children may contribute significantly in terms of labor and management (Boulding, 1980). Home and workplace coincide, and work tends to determine the context of family life.

Time and timing A second aspect of work which influences the extent to which the occupation and the

family will be intertwined involves time and timing of events. First, the amount of time demanded by the occupation may determine what is left over for family life. Second, how family members synchronize with other family members may be influenced by such things as when the work is done, i.e., day or night shift. Third, the timing of occupational events may have an impact on family life, i.e., promotions or transfers.

Small family farms tend to be more labor intensive than larger firms, requiring considerable inputs of time on the part of family members. With increased reliance on off-farm employment, time demands may also increase. In addition, farming tends to involve variations in labor requirements throughout the year, characterized by peak and slack periods. The timing of events may also influence family life, such as housing arrangements changing when the son takes over as principal operator of the farm.

Rewards and resources A third important area in which work and family life are connected involves rewards and resources. Jobs serve as a source of money, prestige, and access to other benefits. The level of resources obtained through work may influence the family's standard of living, level of stress, or use of leisure. The relative power of a particular family member may be, in part, dependent upon the resources he/she brings

to the family.

In terms of labor allocations, relative resources and rewards available from the farming operation and/or off-farm employment may help to determine how labor will be used. In turn, labor inputs may influence an individual's relative position within the family. A woman bringing financial inputs into the farming system may find her power in the family enhanced. Likewise, women who spend significant amounts of time in farm labor are likely to be involved in farm decisions (Jones and Rosenfeld, 1981).

Occupational cultures Occupations tend to influence the attitudes and values held by individuals involved in that work. Further, membership in an organization can influence the workers' view of themselves, their families, and the world.

Straus (1956) identifies what he terms a family farming tradition. Farming values such as love of the land, family cooperation, independence, and hard work are passed from generation to generation. Farming exerts an important influence on socialization of children and family life in general.

Emotional climate A fifth area of work's influence on the family identified by Kanter is the emotional climate of work. A number of studies have investigated

the extent to which dissatisfactions or tensions from work are related to dissatisfactions or tensions in the family. Two opposing models of this relationship have been identified (Faunce and Dubin, 1975; Pond and Green, 1983). One model has been termed the spill-over model and proposes that satisfaction in one area of life carries over into other areas. This model predicts, then, that an individual dissatisfied with work will also be likely to be dissatisfied with his/her family. The opposing model has been termed the compensatory model and suggests that one area of an individual's life could compensate for dissatisfaction in another area. According to this model, then, an individual dissatisfied with work may experience greater satisfaction in family life. Testing of these models has resulted in divergent findings, although according to Pond and Green (1983), the spill-over model seems to have received the greater amount of support.

It seems likely that in situations where work and family life are as closely connected as they often are on the family farm, the overlap in emotional climate will be great. Satisfaction with farming is likely to be positively related to satisfaction with farm family life.

The interface between work and family life has been shown to involve effects on the family generated by the

occupational mileau. Kanter (1977) points out that influence may also flow from the family to the job.

The family affects work life

The family may affect the work situation in a number of ways. Included here are the effects of cultural traditions, family structure, and family members getting involved in the work of the worker.

First, cultural traditions are transmitted from generation to generation, in part, through the family. These traditions may be strong enough to shape family members' decisions about their relationship to work. For example, ethnic traditions and sex-role stereotypes help to determine who will be available for paid employment.

With regard to family farms, the family farming tradition identified by Straus (1956), may be important. Work influences the family in determining what values, i.e. love of the land, will be passed on to succeeding generations. However, family relationships and processes determine the extent to which these values will be passed on and the specific interpretation of these values passed to the succeeding generation.

Second, the family may influence work life when family connections define work relations. For example, in family firms the father may be the head of the firm

simply by virtue of being the father. Barnes and Hershon (1976) have shown that in family firms, organizational transitions often occur simultaneously with family transitions.

In terms of the farm family, it has already been pointed out that the transfer of the farm to the next generation may influence family life. It is also possible that family transitions will influence the farm business. For example, the older generation may move off the farm and turn it over to the son when he gets married.

Third, the influence of the family on work may be seen when family members get involved or implicated in the work of the worker. Family situations can define work orientations, motivations, abilities, emotional energy, and the demands people bring to the workplace. The spill-over model predicts that workers satisfied with their family life will also be likely to be satisfied with their work life. The compensatory model suggests that a worker unhappy at home may find release in satisfying work (Pond and Green, 1983).

In farm families, the family may act as a work unit, and labor allocation may be determined, in part, by family demands. For example, the farm woman's participation in work, either off the farm or on the farm, may be a function of family labor demands, i.e., care of small children.

It has been shown here that the work-family interface involves reciprocal influences between the work and family situations. The work-family connection may be particularly strong on the family farm where boundaries between the farm business and farm family are often indistinct.

Conclusion

The recent farm crisis has drawn attention to dramatic changes occurring on the American family farm. The difficulties of the family farm have been exacerbated during the crisis. Farm life may in some ways have been significantly altered in yet undetermined ways. However, the preceding discussion has illustrated that farm family life was significantly changing prior to the current crisis. Rural and urban distinctions were becoming blurred. The structure of agriculture was becoming increasingly dualistic. Farm families, in general, were moving away from complete reliance on farm generated income and becoming increasingly involved in nonfarm work.

The investigation of the interface between work and the family on the family farm may be aided through the use of the "work-farm-family role system" concept. Examination of interrelationships among family, farm,

and nonfarm work roles may help in forming a picture of contemporary farm life.

Dissertation Format

This dissertation involves an examination of three aspects of contemporary farm life: 1) whether or not parents prefer to pass on the farming occupation to the succeeding generation, 2) satisfaction with farming, and 3) involvement of women in the farming role. The investigation of these three aspects is reported in three separate, self-contained papers using the alternative dissertation format.

Data used in the three studies were obtained in 1977 from interviews with Iowa farm operators and their spouses. Farm operators responded to questions concerning the farm business as well as various attitudinal items. Spouses responded to questions pertaining to the farm household as well as to questions relating to their attitudes in various areas.

The population of interest was all Iowa farms having operators of at least 18 years of age and gross agricultural sales of at least \$2500 in 1976. Furthermore, some land had to be either owned or managed by the operator and his immediate family. Under this definition it was estimated that the survey population consisted of approximately 111,973 farms. The sample rate was set at one out of 106 farm housing units or approximately one percent of the population of interest.

Two samples were drawn from the survey population in order to obtain the desired sample size. The first step in drawing the first sample involved grouping the survey population into counties clustered by the 12 extension areas within the state. Second, counties were selected from each extension area. At the third step, within each county approximately 3.6 area clusters were selected. All eligible households within the area cluster were contacted. The first sample resulted in 739 completed interviews.

Since the desired sample size was 900 interviews, it was decided to draw a second sample. In drawing the second sample, the first step involved a selection of counties based on size in terms of estimated number of eligible farms. In each of the six largest extension areas, three counties were selected. Two counties were selected from each of the six smallest extension areas. Area clusters within a selected county were canvassed completely. The product of the probability of area cluster selection and the probability of county selection was equal to the overall rate of 18 hundreths of one percent.

The second sample resulted in 194 interviews for a total of 933 completed interviews. The non-response rate was 19 percent which included a refusal rate of 13 percent.

The hypotheses tested, variables measured, and procedures employed in each of the analyses are reported within

the three separate papers. An overall summary and conclusion follows the presentation of the three papers.

SECTION I. OCCUPATIONAL ASPIRATIONS FOR CHILDREN

INTRODUCTION

Virtually all young men who become farmers come from farm families (Molnar and Dunkelberger, 1981), and the rate of father-son succession is higher for farming than for any other occupation in the United States (Blau and Duncan, 1967; Pavalko, 1971). However, with the changing opportunity structure for farm youth, a decreasing number of farm sons are following in their father's footsteps. In the mid-1950s, Straus (1956) found that approximately half of the farmers' sons in his sample expressed a desire to farm. By 1978, the percentage had decreased to 20 percent (Lyson, 1978). In light of the current farm crisis and the corresponding alterations in the structure of agriculture, the percentage is likely to decrease even further. In recent years, increasing concern has been expressed over who will own and operate America's farms in the future.

Historically, farmers' sons have become the owners and operators of the nation's farms. Based on research by Straus (1956, 1964), Burchinal (1962), Haller and Sewell (1967), among others, Lyson concluded, "Without exception, findings have shown that young people from farm backgrounds, particularly boys, have a virtual monopoly on access to farming careers" (1979: 773). He attributed this monopoly

to the difficulty nonfarm youth have in gaining access to farmland and in obtaining sufficient capital to successfully establish a farming operation. Farm youth, on the other hand, have the opportunity to join an existing family operation, inherit a farm, or receive assistance from relatives already in farming.

Other writers (for example, Straus, 1956) have cited the occupational transmission from fathers to sons as primarily the result of a family farming tradition. These writers emphasize the importance of a set of attitudes, values, and habits as important to the selection of a farming career. Farm children are taught to love the land, respect nature, and value hard physical labor. Young people entering farming have generally developed their desire to farm while living and working on their parents' farm. They rely on the experience gained in this setting and on the support available from an existing family operation.

Changes in the Opportunity Structure

While the pattern of father-son succession has been the prevalent pattern in the past, changes in the opportunity structure for farm youth means that this is currently becoming a less feasible path of entry into

agriculture. The opportunity structure for farm youth has changed in a number of basic ways, including impacts through changes in the structure of agriculture and changes in the off-farm opportunity structure.

Changes in the structure of agriculture

The most visible structural change in agriculture is the dramatic decrease in the number of farming operations. In 1930, the number of farms peaked at 6.5 million farms. By 1960, this number had decreased to 4.1 million, and in 1980, to a mere 2.4 million (U.S. Department of Agriculture, 1982).

Accompanying the decline in the number of farms has been a corresponding decrease in the total farm population. In 1930, slightly over 30 million people lived on farms, representing roughly a quarter of the total U.S. population. In 1960, 15.6 million people were classified as living on farms, comprising about nine percent of the total population, and in 1980, the number had declined to 7.2 million, or about three percent of the nation's population (U.S. Department of Agriculture, 1982).

Along with the decline in the total number of farms and in the farm population has come an increase in the average size of the U.S. farm. The average acreage

per farm in 1930 was 151 acres. By 1960, this had risen to 277, and by 1980, the average acreage was 429 (U.S. Department of Agriculture, 1982).

Advances in farm technology have altered labor needs, making it possible for a smaller number of workers to produce significantly more food. The average farm worker supplied enough to feed four persons in 1820. Eight persons could be fed by the average farmer in 1940, and by the late 1970s the figure had increased to 69 persons (U.S. Department of Agriculture, 1981). At the same time that labor needs have declined the capital requirements needed to operate a farm have increased.

These changes are reflected in the increasingly dualistic nature of agriculture (Buttel, 1982, 1983). This dualism is evidenced, on the one hand, by a relatively few large-scale commercial farms responsible for an increasing proportion of the nation's agricultural production and sales, and, on the other hand, by a larger number of small-scale farms responsible for a much smaller proportion of production and sales. Only $4\frac{1}{2}$ percent of the nation's farms gross over \$200,000 annually. Yet these large-scale farms produce almost half of all farm products and account for about two-thirds of the farm income. In contrast, nearly three-fourths of

all farms gross less than \$40,000. These small-scale farms are responsible for less than one-fifth of farm production and earn a mere $1\frac{1}{2}$ percent of all farm income (Allen, 1985). The small-scale operations tend to be more labor intensive than the large-scale operations and often rely on supplemental nonfarm income. In 1974, 1.4 million farm operators were listed as principally involved in farming compared to .9 million operators principally involved in other occupations. By the year 1982, the proportion of farmers listing themselves as primarily involved in other occupations was almost equal to the proportion of farmers listing their principal occupation as farming, 1.0 million and 1.2 million, respectively (U.S. Department of Agriculture, 1982).

Changes in the nonfarm structure

These alterations in the structure of agriculture have been accompanied by changes in the non-farm opportunity structure of farm youth. Young people growing up on farms have historically left the farm in large numbers for nonfarm occupations. Factors operating in the out-migration of farm youth may be viewed as both pushing youth out of agriculture as well as pulling them toward nonfarm alternatives.

Push factors include the relatively high fertility

rates of farm women. Farm families have historically produced more children than could be absorbed by production agriculture (Beale, 1974). With technological advances reducing labor needs even further, the surplus labor has been pushed out of agriculture into other occupations.

Factors operating to pull farm youth in nonfarm directions involve the relative attractiveness of nonfarm lifestyles. Fite (1981) has pointed out that it has long been recognized by farm youth that financial opportunities are generally better off the farm. In addition, working hours tend to be more regular and the financial and health aspects of nonfarm jobs may be less risky. Furthermore, urban areas offer services, consumer goods, and entertainment not as readily available on the farm.

Education often acts as a pull factor. Farming has traditionally been considered a rather unchallenging occupation, not requiring a higher education (Fite, 1981). Lyson (1979) has stated, however, that this is changing and that currently, attending college is becoming an important preparatory step to farming. Yet, as educational levels increase in rural areas, those who have advanced educations tend to leave for urban areas (Beale, 1974).

Increasing nonfarm opportunities in rural areas also pull young people off the farm. Between the years 1920 and 1970, the farm population decreased from 30 percent of the total U.S. population to less than five percent, while the rural nonfarm proportion increased from 19 to 22 percent (Hawley and Mazie, 1982). During the 1970s, industry, especially service-oriented industries, became much more numerous in rural areas (Falk, 1982). While some industries and services have been hurt by the farm crisis or have subsequently moved elsewhere, rural nonfarm opportunities have increased, especially relative to farm opportunities.

In general, the changes that have occurred point to decreased opportunities for aspiring farmers and increased attractiveness of off-farm opportunities. It appears that it will be particularly difficult for those who desire a traditional owner-operator farming career to pursue it as their primary occupation. Concern has often been expressed in recent years that agribusiness will eventually replace the traditional family farm.

The Future of the Family Farm

Is the concern over the future of the family farm legitimate? Does it matter who is involved in farming

as long as enough food is produced to meet the needs of the American people? The farm crisis is currently a highly visible problem with emphasis being placed on individual families faced with the loss of the family farm and the attendant emotional and financial problems.

There is also a certain nostalgia over the passing of what is seen as a part of our national heritage. Private ownership of land is an important aspect of our democratic tradition. Furthermore, a significant number of Americans grew up on farms or had parents or other relatives who owned farms. The family farm provides an important link with the past.

It is perhaps easy to dismiss these as merely emotional issues. Yet as Vogeler (1981) points out, we need to consider the long-range consequences and decide what the goal of U.S. agriculture is to be. Should it be "short-term profit maximization for large-scale producers or the means of providing employment and food for human need in the short and long term without disproportionately burdening a few groups ...?" (p. 8). An informed answer to this question rests, in part, on an understanding of the future composition of the farming population.

Selection of the Farming Occupation

What factors influence the selection of the farming occupation? Past studies have generally examined the choice of a farming career from the perspective of high school or college age young men. The focus of these studies has generally centered on farming aspirations. However, the results of a study by Lyson (1982) suggest that farming aspirations may be a relatively poor predictor of the eventual attainment of that career goal. Only 20 percent of the high school students in his sample who were planning to farm were actually farming four years later. Almost two-thirds had altered their decision and were pursuing a nonfarm career goal, while others who had not expressed a desire to farm in high school were engaged in that occupation at the time of the follow-up survey. Lyson concluded that the young people were probably not aware of the full range of barriers to entering farming, such as the high investment required and the potential for operating losses. Thus, important factors that determine who will farm remain to be identified.

The present study examines farm parents' preferences for whether or not a child will enter farming and seeks to identify factors related to a parental preference for a farming occupation. Since family support has been

vitally important to the attainment of a farming career in the past, an understanding of this link can help form the basis for an understanding of how the opportunity structure is changing. Utilizing data from a 1977 Iowa survey, the dependent variable of interest is whether or not farm parents select farming as a preferred occupation for at least one of their sons between the ages of 6 and 18. Attention is focused on sons, since farming has traditionally been a male occupation, and only two of the total sample of parents expressed a farming preference for a daughter.

REVIEW OF LITERATURE

Parental expectations and desires for careers for their children may be similar to occupational expectations had aspirations of young people in that young people's occupational expectations are influenced by personal interests, abilities, and values as these are modified by an assessment of an external limiting environment (Kuvlesky and Bealer, 1966). The assessment of the external limiting environment includes information about occupational opportunities and knowledge of entry paths, plus the perceived availability of resources to pursue them (Blau et al., 1956; Molnar and Dunkelberger, 1981). Parental wishes for children's careers may, then, reflect the parents' interests and values, their assessment of their children's interests, abilities, and values, and their assessment of the limiting environment, including their knowledge of occupational opportunities and entry paths, and the perceived availability of resources.

The Context of Selecting a Farming Career

Parents' preferences for children to farm may be better understood by examining these factors within the context of the "work-farm-family role system." This concept is an extension of Pleck's (1977) "work-family

role system."

Pleck identified a system of roles occurring in the nuclear family. The work-family role system points to the interdependence of work and family roles. The elements of this system are the male and female work roles and the male and female family roles. Each party's involvement in their respective roles varies from a high degree of involvement to no involvement. Analysis of the relationships among the parts involves a consideration of how variation in one role affects and is affected by the others. For example, a major research thrust of the 1970s analyzed the effects of the employment of married females on the family, including the impact on the incidence of juvenile delinquency, relative marital power of the wife, and the husband's involvement in household chores. Identifying and analyzing a role system allows for a consideration of the interplay of relevant aspects of the various roles played by individuals. The work-family role system is illustrated in Figure 1.

Boulding (1980) has suggested that in the case of the farm family, this role system includes farm work roles for the husband and wife, other work roles for both, and family roles for both, plus work and family roles of the children. Thus, a "work-farm-family role system" may be identified. This role system is illus-

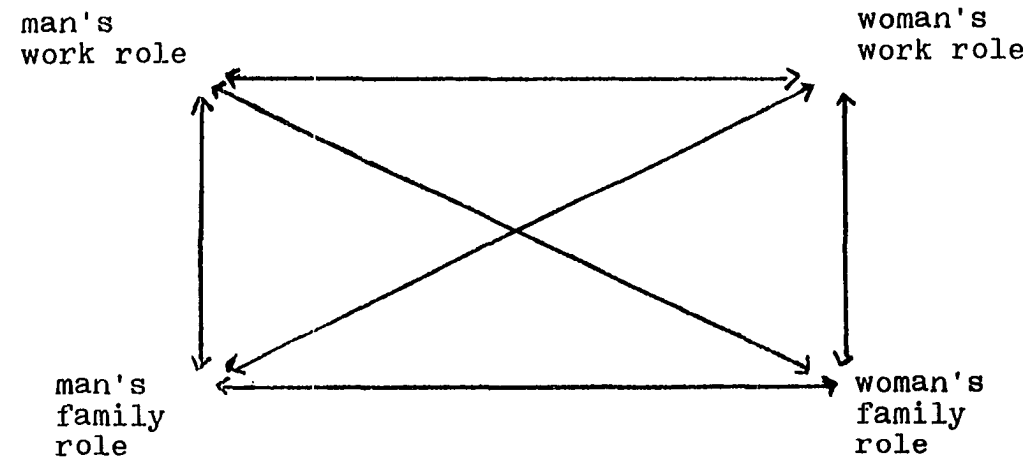


Figure 1. The work-family role system

trated in Figure 2.

It may be assumed that the factors which have been identified as potentially important in occupational aspirations for children, that is, personal interests and values, perception of children's interests, abilities and values, plus knowledge of occupations and entry paths and perceived availability of resources, are, in part, products of this role system. It is argued that knowledge of the characteristics of this system will be helpful in predicting occupational aspirations for children.

Personal Interests, Abilities, and Values

The process of socialization is vitally important to the development of the personal interests and values which influence occupational selection. Young people growing up on farms are socialized into the attitudes and values which support the selection of a farming career. Straus (1956) has argued that traditional farming values are passed from generation to generation and play an important part in the decision to enter farming.

The importance of these traditional values is highlighted in the findings of several research studies. Lyson (1979) reported that the father's and mother's childhood place of residence were associated with children's plans to become a farmer. Those farm-reared young men

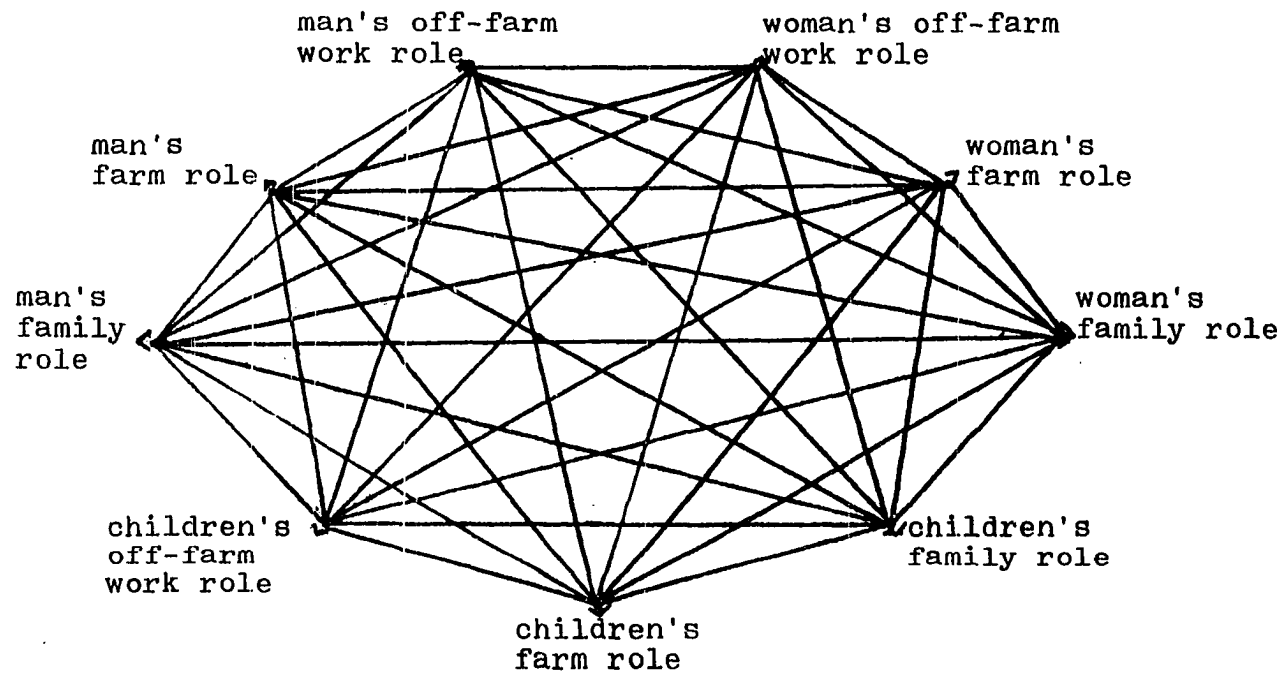


Figure 2. The work-farm-family role system

whose parents were also reared on farms were more likely to plan to farm than were those whose parents were not reared on farms.

Another line of research demonstrates that sons whose fathers work full-time on the farm are more likely than sons of part-time farmers to choose a farming career (Straus, 1956; Lyson, 1978, 1979). Working off the farm is often a response to the need for additional resources. However, it also seems probable that full-time farmers will be more likely to pass on traditional farming values and attitudes than those who have competing occupational interests.

Likewise, sons whose mothers do not work off the farm have been found to be more likely to desire a farming career (Straus, 1956). There can, of course, be many reasons for the mother to work off the farm, including the need for additional financial input into the family system. As with the father, values and attitudes specific to the farming tradition may more likely be passed on by a mother not involved in off-farm work.

A specific type of socialization which is important here is anticipatory socialization, the process whereby the young person anticipates engaging in a role. That anticipatory socialization is a factor in the selection of farming as a career is evidenced by the finding that

sons choosing farming spend considerably more time working at home on the farm than do those choosing a nonfarm occupation (Straus, 1956). Further, although probably more relevant at the time of Straus' study than currently, aspirants to the farming occupation were more likely to report working with things rather than people or ideas to be enjoyable, an attitude held to be appropriate for the farming lifestyle (Straus, 1956).

Also consistent with the farming lifestyle is a close relationship with parents. Coughenour and Kowalski (1977) demonstrate that many young people pursuing a farming career will continue to live and work closely with their parents well beyond the age when most young people have established a more independent lifestyle. Young people choosing farming seem to have been socialized into that role. Furthermore, they are more likely to report a happy home life than farm youth selecting other occupations (Straus, 1956).

Assessment of the External Limiting Environment

Coupled with an understanding of the attitudes, values, and abilities in the expectation to pursue a career is an assessment of the limiting factors in the external environment. This assessment consists of labor market information and knowledge of career paths as well

as the perceived availability of resources (Molnar and Dunkelberger, 1981).

Occupational knowledge

Information about available occupational opportunities and the entry paths into those occupations has generally been thought to be more limited in rural than in urban areas. Support has been found for the idea that urban youth experience more exposure to a broader range of occupations and entry paths (Lipset, 1955). Farm youth are thought to be particularly disadvantaged in this respect.

However, Straus (1956) found little if any tendency for those farm-reared young men living near urban centers to be more likely to enter nonfarm occupations than those living near places of less than 20,000 population. On the other hand, it might be argued that the findings in regard to off-farm work could reflect the influence of this knowledge variable. Those whose parents work off the farm conceivably have more ready access to occupational information.

Availability of resources

Another variable involved in the assessment of the limitations of the external environment is the perceived

availability of resources necessary to pursue a desired occupation. Entry into farming requires considerable capital and access to land. Most aspiring farmers rely on some form of family support.

The importance of available resources is evident in the research. Young men coming from farm families that rely on agriculture as the primary source of income are more likely to choose farming than young men who come from farm families which have a greater reliance on nonfarm sources of income (Lyson, 1979).

Recent estimates show that approximately 92 percent of all American farm families rely on at least some nonfarm income (Carlin and Ghelfi, 1979). For many farm families, nonfarm income makes up a greater proportion of their total income than farm income. In 1976, approximately 45 percent of U.S. farm families received more income from nonfarm sources than from farm sources, and more than 63 percent of farm families were multiple earner families (Banks and Kalbacher, 1981). Those young men choosing a life in farming have been more likely to come from that decreasing proportion principally relying on farm income. Further, they are more likely to come from farms receiving relatively higher agricultural incomes compared to other farm operations (Straus, 1964).

Off-farm work has already been cited as influencing values and knowledge, but as Heffernan et al. (1981) point out, entering into off-farm work is often a response to the inability of the farming operation to provide sufficient revenue to remain a competitive business. Income from an off-farm job is used to supplement farm income needed for the farm business as well as for the needs of the farm family. Other writers (e.g., Coughenour and Wimberly, 1982). suggest that a significant number of part-time farmers are hobby farmers, engaged in farming on a small scale because they enjoy it. For still others, it may be a form of moonlighting. In any case, it can be argued that the part-time farm operation would be less likely to be able to provide resources for a son entering a farming career than would the operation providing full employment.

Those who believe they have a chance to inherit a farm are also more likely to choose farming (Lyson, 1979). In looking for a primogeniture effect, Lyson (1979) found some evidence that only sons or oldest sons are most likely to consider a career in farming. Straus (1956) predicted that coming from a smaller family and having older parents would be significant in this regard, but found only minimal support for these ideas.

These studies of young men's farming aspirations provide clues for identifying the factors which may influence parents' preferences for their sons.

Predicted Relationships

Inherent in the traditional path of father-son occupational succession is a vast potential for parental wishes to influence a child's career decision. The influence can range from a complete determination to a total lack of influence. Parental influence, when present, can take a variety of forms. Thus, attitudes toward farming may be instilled in children by parents at the subconscious level. Also, a child's own choice may be supported financially and emotionally. Some parents may actually insist that children become farmers, or alternately, refuse to allow them the opportunity to join the family business. At times these influences may be conflicting. For example, a father may instill in his son a love for working the land and then be unable or unwilling to take him into the business. The factors operating here need to be explicated. In the search for factors which will help to explain the parents' desire or ability to pass on the farm and/or farming tradition, a number of relationships are proposed in light of the work-farm-family role perspective and research studies of sons' choices.

Availability of resources

First, it is predicted that the availability of resources which can assist the son's entry into farming will be related to reporting a farming preference. Resource availability is reflected in both farm size and family size. The larger the farming operation, the more likely sufficient resources are to be available. The predicted relationships are:

- H1 The greater the gross farm sales, the more likely the couple will be to report a farming preference for at least one son.
- H2 The greater the number of cropland acres operated, the more likely the couple will be to report a farming preference for at least one son.
- H3 If the operator plans to expand the amount of cropland in the operation, the couple will be more likely to report a farming preference for at least one son.

Family size may also hold implications for availability of resources. The larger the family, the greater the demand and potential competition for resources. Not only may parents be faced with providing for the entry of more than one son into farming, but resources are also needed for helping to prepare children for other careers.

It is predicted:

- H4 The fewer the number of total children in the family, the more likely the couple will be to report a farming preference for at least one son.

Involvement in roles

A second potentially important area of relationships concerns relative involvement of family members in roles within the work-farm-family role system. The couple with high involvement in the farming operation may be more likely to identify with the farming role and see it as a viable occupation for a son. Involvement in off-farm work may reflect the inability of the farming operation to provide sufficiently for the needs of the family and the operation. It may also reflect the existence of competing attitudes and values. Those involved in off-farm work may be less likely to pass on traditional farming values and may also be more aware of alternative occupational opportunities and entry paths. Therefore, it is predicted:

- H5 The greater amount of time the couple spends in work on the farm, the more likely they will be to report a farming preference for at least one son.

- H6 The greater amount of time the couple spends in work off the farm, the less likely they will be to report a farming preference for at least one son.

Prior Involvements

A third area of relationships to be tested reflects involvements prior to entry into the work-farm-family role system. Experiences prior to the couple's current involvement in farming may influence attitudes, values, and knowledge of occupational possibilities. These relationships include:

- H7 If the husband worked full-time at a nonfarm occupation prior to farming, the couple will be less likely to report a farming preference for at least one son.
- H8 If the wife worked full-time at a nonfarm occupation prior to farming, the couple will be less likely to report a farming preference for at least one son.
- H9 If the wife grew up on a farm, the couple will be more likely to report a farming preference for at least one son.

- H10 The higher the couple's educational level,
the less likely they will be to report a
farming preference for at least one son.

Satisfaction with roles

Finally, couples who are satisfied with their farming and family roles may be more likely to desire to pass on the farming tradition. Hypothesized relationships include:

- H11 The higher the couple's satisfaction with farming, the more likely they will be to report a farming preference for at least one son.
- H12 The higher the couple's satisfaction with the family, the more likely they will be to report a farming preference for at least one son.

In addition to testing these relationships at the bivariate level, results of a multivariate analysis are reported. Relationships are predicted in the same direction. The purpose of this multivariate analysis is to identify a model for predicting parents' preferences for a son to enter farming.

METHODS

Data used in this analysis were collected during interviews conducted in 1977 with a sample of farm operators and their spouses. The sample represents all Iowa farms having gross agricultural sales of at least \$2500 for 1976 and was an area probability sample representing all Iowa counties. Of the 933 farming operations represented, 336 of the farm families had at least one son between the ages of six and 18. Since the primary interest was to identify factors which would be predictive of wanting to pass on the farm and/or farming tradition, the sample was further limited to only those couples who did not already have a son in farming. This resulted in a useable subsample of 315.

Characteristics of the Sample

As might be expected, operators and spouses in this subsample tend to be slightly younger than those in the total sample. The operators' ages in the subsample range from 26 to 68 with a mean age of 43.3, compared to a range of 19 to 86 and a mean of 47.8 for the total sample. Similarly, the spouses' ages in the subsample range from 25 to 62 with a mean of 40.3, compared to a range of 18 to 82 and a mean of 45.0 for the total sample.

The subsample also appears to be slightly better educated. Of the operators in the subsample, 78 percent are high school graduates while only 68.1 percent of the total sample reported graduation from high school. Of the spouses in the subsample, 86 percent reported graduation from high school, compared to 76.5 percent for the total sample. College graduates make up much smaller percentages of the subsample and total sample. Of the subsample operators, 6.3 percent are college graduates while 5.7 percent of the total sample operators have graduated from college. For spouses the percentages are similar but reversed. Only 4.4 percent of the subsample spouses have graduated from college compared to 5.7 percent of the total sample.

Family size differences are negligible. Mean number of total children for the subsample and total sample are 3.7 and 3.4, respectively.

A brief look at farm operation characteristics may also be helpful in characterizing the subsample. The total number of cropland acres is similar for the subsample and total sample. Both range from zero to 2,377 with the mean of the subsample, 297.1, only slightly higher than the mean of the total sample, 264.5.

Gross farm sales are somewhat higher in the subsample. The mean sales for the previous year were \$99,000 for

the subsample and \$88,000 for the total.

Subsample operators were more likely to report at least some off-farm work, approximately 30 percent of the operators in the subsample compared to 26 percent of operators in the total sample. In contrast, 33 percent of the wives in the subsample reported at least some off-farm work while 36 percent of wives in the total sample reported off-farm work.

Variables Measured

The dependent variable

The dependent variable in this analysis is dichotomous, representing a distinction between those parents who would like to pass on the farming tradition to a son and those who do not indicate that preference. For each child between the ages of six and 18, wives identified the occupation they would prefer for that child. Couples were coded "1" if the wife reported wanting at least one son to enter farming and "0" if farming was not mentioned as a preferred occupation for at least one son.

Resource variables

Four variables were used as measures of the availability of resources. These variables, representing

both farm size and family size, are gross farm sales, cropland acres, plans for farm business expansion, and total children.

Gross farm sales is computed from information on crop inventory sales, swine, sheep, and beef cattle sales, and milk sales. Mean sales are \$99,000 and range from \$175 to \$628,000.

Cropland acres is the total number of acres owned and operated and acres rented in and operated. The range is zero to 2,377, and the mean is 297.

Plans for expansion is a response to the question, "During the next three years, do you plan to change the amount of land in your operation?" The variable was coded "1" if the respondent indicated plans to increase land and "0" if the respondent indicated plans to decrease the amount of land or leave the acreage unchanged. Approximately 38 percent of the respondents planned to expand.

Total children includes both children at home and grown children. The number of children range from one to 15, with a mean of 3.7.

Role involvement variables

Role involvement variables reflect the extent of the couple's participation in on-farm and off-farm roles.

These variables are measured as follows.

Couple's farm labor is an estimate of total farm labor input by the couple during the previous year. Total estimated hours of labor by the husband and the wife were summed to arrive at the couple score. The farm labor scores range from zero to over 10,000 with a mean of approximately 3,000.

Couple's off-farm labor is the percent of couple labor that is off-farm labor. It was calculated by adding the husband's and wife's total estimated off-farm labor hours for the previous year, dividing this by their total off-farm labor hours plus their total farm labor hours, and then multiplying by 100. Scores range all the way from zero to 100 percent with a mean percent of 16.8. The distribution is positively skewed with most couples having a score of zero.

Prior involvement variables

Four variables were used as indicators of involvement prior to participation in the work-farm-family role system. These include measures of husbands' and wives' previous work experience, childhood place of residence, and education.

Husband's previous occupation represents a response to the question, "Did you work full-time at another job

before you started farming?" This variable was coded "1" if yes and "0" if no. Forty-three percent of the operators reported having worked full-time prior to farming.

Wife's previous occupation was constructed in a similar manner to the variable representing the husband's previous occupation. Twenty-eight percent reported having worked full-time before farming.

Wife's childhood place of residence represents a response to a question regarding where the wife was raised. This variable was coded "1" if she grew up on a farm, "0" if elsewhere. Approximately, 31 percent of the wives reported having grown up on a farm while 68 percent had another childhood place of residence.

Couple's education is a composite score representing education completed by the husband and wife. Respondents indicated the highest grade completed. These years of education were coded as suggested by Carter (1971) (1-7=1, 8=3, 9-11=4, 12=5, 13-15=9, 16=10, 17+=13). Carter points out that the relationship of education to other aspects of an individual's life is more likely to be linear when years of education are recoded to represent the utility of education. Years of education vary in their underlying meaning, i.e., 12 years of education reflects high school graduation and means more than

simply one more year of education. After being recoded, the husband's and wife's scores were added. Couple scores range from 4.00 to 23.00 with a mean of 10.66.

Satisfaction variables

Two variables measured the couple's satisfaction. These variables reflect satisfaction with farming and with the family.

Satisfaction with farming is a composite score representing the couple's expressed satisfaction with farming. The husband responded to the question, "Considering other occupations that you could have gone into, how satisfied are you with farming?" The wife responded to, "Considering other occupations that your husband could have gone into, how satisfied are you with farming?" Responses were coded on a five point scale from "1", not satisfied, to "5", very satisfied. The couple's satisfaction score is the sum of the husband's and wife's responses. Coefficient alpha is equal to .59. Scores range from a low of 3.00 to a high of 10.00, with a mean score of 8.89. As often happens with measures of satisfaction, the distribution of responses is negatively skewed with the most frequent score being 10.00.

Satisfaction with the family is also represented by a composite score, representing the couple's expressed

satisfaction and is constructed in a manner similar to the satisfaction with farming score. Coefficient alpha equals .50. Both husband and wife responded to the question, "All things considered, how satisfied are you with your family life?" Scores range from 2.00 to 10.00, with a mean of 8.68 and a mode of 10.00.

Testing Relationships

The relationships between the dependent and independent variables are examined first on the bivariate level. The t-test statistic was computed for examination of differences between the dependent variable and independent variables measured on a continuous scale. Contingency tables were examined in testing relationships between the dependent variable and nominal level independent variables. The chi-square statistic and significance level are reported.

As a summary measure of the relationships between the dependent variable and independent variables and in order to reveal relationships possible obscured by interrelationships among variables, a discriminant analysis was performed. A forward step-wise technique was used with Wilk's lambda as the selection criterion and a tolerance of .001, with F-to-enter and F-to-remove both 1.0.

Discriminant analysis is a multivariable technique useful for distinguishing among two or more groups. A dependent variable, measured on a nominal scale is used as the group variable. Independent or classification variables are either continuous or binary coded. The technique results in the development of a linear equation designed to achieve maximum separation among groups. Data considerations include: 1) that each case have a value for each of the variables used in the analysis, and 2) that classification variables are assumed to be from a multivariate normal distribution (Norušis, 1985).

RESULTS

First, it was of interest to assess the extent to which these parents expressed a desire to pass on the farming tradition. Of the 315 couples in this subsample, 127 or 40.3 percent listed farming as a preferred occupation for at least one of their sons between the ages of six and 18. The remainder of the group, 188 or 59.6 percent, either preferred other occupations for their sons or failed to mention any preferred occupation.

Second, relationships between the dependent variable and selected independent variables were assessed at the bivariate level. Support was found for several of the predicted relationships.

Table 1 shows that support was found for the predicted relationship between the availability of resources and reporting a farming preference for at least one son. Gross farm sales (H1) and cropland acres (H2) were significantly higher for the group stating a farming preference ($p < .05$). No significant differences between the groups were found with regard to plans to expand the land in the operation (H3) or total number of children in the family (H4).

Some support was also found for the hypothesized relationships between involvement in roles and preference

Table 1. Chi-square and t-test results of relationships between resource variables and preference for a son to farm

Variable	Percent reporting farm preference	Chi-square	Mean of those reporting farm preference	Mean of those not reporting farm preference	T	df
gross farm sales			111,680.46	90,028.90	-1.94*	302
cropland acres			339.32	274.73	-2.33**	309
plans to expand	yes 38.8 no 41.4	0.107				
total children			3.85	3.88	0.14	303

* p significant at .05.

** p significant at .01.

for the farming occupation. Those who did not state a farming preference spent a significantly larger percentage of their labor in off-farm work (H6) ($p < .05$). No difference was found between the two groups of parents with regard to farm labor (H5). These results are presented in Table 2.

The effects of involvements prior to entrance in the work-farm-family role system are shown in Table 3. Of those couples in which the husband had worked full-time at another occupation prior to farming, 36 percent stated a desire to pass the farming occupation on to at least one son, compared to 47.1 percent of those who had not worked at a nonfarm occupation prior to farming (H7) ($p < .05$). Of those couples in which the wife had grown up on a farm, 45.1 percent stated a desire for a farming career for at least one son, compared to 29.9 percent of those who had not grown up on a farm (H9) ($p < .05$). Neither the wife's occupational background (H8) nor the couple's educational level (H10) seems to be significantly related to the dependent variable.

Satisfaction with roles was also hypothesized to be related to a farming preference. The relationship between satisfaction with farming and farming career aspirations was significant ($p < .05$). Those who stated a preference for a farming occupation for their son were more likely

Table 2. T-test results of relationships between role involvement variables and parental preference for a son to farm

Variable	Mean of those reporting farm preference	Mean of those not reporting farm preference	T	df
family's farm labor	3504.70	3232.60	-1.49	313
couple's off-farm labor	11.67	20.33	3.06**	305

** p significant at .01.

Table 3. Chi-square and t-test results of relationships between prior involvement variables and preference for a son to farm

Variable		Percent reporting farm preference	Chi-square	Mean of those reporting farm preference	Mean of those not reporting farm preference	T	df
husband's previous occupation	yes	36.0	3.80*				
	no	47.1					
wife's previous occupation	yes	40.7	0.01				
	no	39.3					
wife's childhood residence	farm	45.1	5.76*				
	nonfarm	29.9					
couple's education				10.47	10.78	1.01	288

* p significant at .05.

to be satisfied with farming than were others (H11). No significant effect was found for satisfaction with the family (H12) (Table 4).

The Multivariate Analysis

The next phase of the analysis involved a multivariate procedure aimed at developing a formula to distinguish between the two groups, those who indicated a desire to pass on the farming occupation and those who did not. Eleven of the 12 variables measured at the bivariate level were included in the analysis. Gross farm sales was not included because of its high intercorrelation with cropland acres. Both are measures of farm size, and in order to more nearly meet the assumptions of the discriminant analysis procedure, it was eliminated from this phase of the analysis.

Variables were transformed when a transformation would help fit the distributions to the normality assumption. The natural logs of cropland acres and total children were computed and used in this phase of the analysis.

The variable representing the percent of couple labor that is off-farm labor was particularly troublesome. Over 70 percent of the couples reported no off-farm work. Therefore, it was decided to transform the

Table 4. T-test results of relationships between satisfaction variables and parental preference for a son to farm

Variable	Mean of those reporting farm preference	Mean of those not reporting farm preference	T	df
couple's farming satisfaction	9.07	8.77	-1.88**	292
couple's family satisfaction	8.67	8.69	0.06	296

** p significant at .01.

variable into a binary variable with a score of "1" being assigned to those who reported off-farm work and a "0" to those who did not report off-farm work. Presented in Table 4 are the variables and Wilk's lambda for each prior to the stepwise selection procedure.

Four variables were selected by the procedure for inclusion in the discriminant function: at step 1, couple's off-farm labor; at step 2, the log of cropland acres; at step 3, the wife's childhood place of residence; and at step 4, the log of total children. These variables and associated Wilk's lambdas are presented in Table 5.

While the function does not explain a great deal of the difference between the two groups (canonical correlation equals .26), there is some evidence that it is at least minimally successful in identifying a formula that could help to identify those who wish to pass on the farming tradition. Using the function to reclassify the couples, 60.13 percent were classified correctly. Understanding that this is likely to be higher for the group from which the function is derived than for another group, it still seems likely that it is somewhat better than chance.

Table 5. Wilk's lambda associated with variables
prior to stepwise selection

Variable	Wilk's lambda	F	Significance
cropland acres (log)	0.969	9.052	0.003
plans to expand	0.998	0.587	0.444
total children (log)	0.999	0.183	0.669
family's farm labor	0.993	1.891	0.170
couple's off-farm labor	0.957	12.490	0.001
husband's previous occupation	0.984	4.497	0.035
wife's previous occupation	0.999	0.108	0.743
wife's childhood residence	0.987	3.684	0.056
couple's education	0.996	1.192	0.276
couple's farming satisfaction	0.991	2.495	0.115
couple's family satisfaction	0.999	0.062	0.804

Table 6. Results of stepwise selection of variables

Variable	Step	Wilk's lambda	Significance
Couple's off-farm labor	1	0.957	0.0005
cropland acres (log)	2	0.945	0.0004
wife's childhood residence	3	0.937	0.0004
total children (log)	4	0.932	0.0007
<hr/>			
N=253	Eigenvalue=0.07	Canonical correlation=0.26	

DISCUSSION

The purpose of this study was to examine farm parents' preferences for whether or not a son enters farming. An attempt was made to uncover factors related to this preference. The examination of parental preference was seen as an important addition to an understanding of recruitment to the farming occupation. Past studies have emphasized farming aspirations of young people, but, while the potential importance of family support has been recognized, there has been little systematic study of this influence.

The parents' preferences were studied by examining responses to a question asking them to identify occupations desired for each child between the ages of six and 18. Parents were then divided into two groups, those who mentioned farming for at least one son and those who did not. Several limitations are inherent in this approach which future research may serve to correct. First, the group not stating a farming preference includes both those who stated other occupations for children and those who chose not to state any desired occupations. Second, it was not possible to determine from the available data whether those who did not state a farming preference would support that preference on the part of a son. Third,

the available data did not allow for a determination of the specific nature of the preference. Did some decline to state a preference out of the belief that it should be the child's choice? Did some only state those preferences already voiced by their children? While these problems could not be addressed in the current study, the operationalization of this variable may be seen as an important first step in this neglected area of study.

The search for factors predictive of this preference revealed several significant relationships. First, farm size seems to have important implications for the availability of resources. Both gross farm sales and cropland acres were positively related at the bivariate level to a preference for the farming occupation. In the multivariate analysis, cropland acres was employed as the measure of farm size and emerged as contributing significantly to the discrimination between the two groups. At an earlier point in the analysis, it was felt that age of the children may influence the relationship between resources and parental preference. Encouraging a son to enter farming may entail resource decisions on the part of the parents with regard to buying or selling land, making investments, etc. Parents who have at least one son approaching the age of 18 may be more aware of resource implications. However, preliminary analysis of this

hypothesis did not reveal a significant effect.

Involvement in roles within the work-farm-family system was also predicted to influence the preference. Results indicated that involvement in off-farm work is a significant factor. Off-farm work may increase knowledge of alternative opportunities, may reflect competing attitudes and values, and is often a reflection of the need for additional resources.

It was also felt that involvements prior to involvement in the work-farm-family role system may be influential. Consistent with previous research which shows that farmers come from farm families, virtually all husbands had been raised on a farm. The wife's childhood place of residence shows more variation and seems to have an important effect. Both bivariate and multivariate tests supported this hypothesis. Traditional farming attitudes and values are passed from generation to generation. Those reared on a farm are more likely to seek to continue this tradition. Another variable related to prior involvement, whether or not the husband worked full-time prior to farming was significant at the bivariate level but failed to add significantly to the discrimination between the two groups. Those who worked prior to farming were less likely to report a farming preference and may have more knowledge of alternative occupational opportu-

nities and may be less socialized into traditional farming attitudes and values.

Finally, it was felt that satisfaction with roles on the farm would be positively related to stating a preference for a son to enter farming. Only moderate support was found for this idea, with satisfaction with farming related significantly to preferences at the bivariate level but not contributing significantly at the multivariate level. Satisfaction with the family did not appear to be a significant factor.

In conjunction with the current farm crisis, the process of selecting a farming occupation may be undergoing change. An understanding of variables affecting the future selection of a career in farming and the impact of the crisis may be aided by an understanding of pre-crisis selection. The data used in this analysis were gathered in 1977. These data suggest that there is a significant and analyzable difference between those parents who state a farming preference for at least one son and those who do not state such a preference. Future research is needed to build on this finding, especially in light of the rapid changes currently occurring in production agriculture.

SECTION II. SATISFACTION WITH FARMING

INTRODUCTION

Recent decades have witnessed dramatic changes in production agriculture. Alterations have occurred in the number and size of U.S. farms as well as in the labor patterns on the farm. Particularly relevant to the farm families involved may be the increasing extent to which farm families are relying on nonfarm income and engaging in off-farm employment. In light of these and other changes, an interesting question concerns the extent to which farm families are satisfied with farming and what factors influence satisfaction with farming. While much scholarly attention has focused on job satisfaction, little has been done directly examining satisfaction with farming.

Changes in Farming

Any examination of personal satisfaction with farming should begin with a consideration of the dramatic changes that have taken place in production agriculture. These changes are perhaps best reflected by the increasing concentration of production in today's agricultural system. In 1980, 2.4 million farms produced the nation's farm output, compared to 6.5 million farms in 1930 (U.S. Department of Agriculture, 1982). Currently, $4\frac{1}{2}$ percent

of the nation's farms produce almost half of all farm products and account for about two-thirds of the total farm income (Allen, 1985). Nonetheless, the majority of American farms remain as relatively small-scale production units. Nearly three-fourths of the farms gross less than \$40,000 annually while half gross less than \$10,000 annually. As a group, these farms in the smallest size category earn a mere $1\frac{1}{2}$ percent of all farm income and produce less than one-fifth of the nation's farm products (Allen, 1985).

Small-scale operations tend to engage in more labor intensive agriculture than the large scale operations, but they are also coming to rely increasingly on nonfarm income and off-farm employment. According to Banks and Kalbacher (1981), 55 percent of all farm operators rely on some off-farm work. Jones and Rosenfeld (1981), using evidence from a national sample, found that the husband was employed off the farm in 26 percent of the sampled farm families, the wife was employed off the farm in 13 percent of the cases, and both the husband and wife held off-farm jobs in an additional 18 percent of the families.

Traditionally, part-time farming has been viewed as a means of transition either into or out of agriculture. Families were seen as either building up equity to get established in a farming operation or were seen as using

off-farm work to ease their transition out of agriculture completely (Fuguitt, 1959). Today, part-time farming is recognized as a permanent feature of modern farm life (Coughenour and Gabbard, 1977; Fuller and Mage, 1976). Nonfarm generated capital is used to finance the farm business as well as to supplement farm income to meet the family's needs (Cavazzani, 1977; Heffernan et al., 1981). In addition, it has been noted that a significant number of part-time farmers may be farming for the nonfinancial rewards available from the farming lifestyle, including feelings of self-sufficiency and enjoyment of farming activities (Coughenour and Gabbard, 1977; Coughenour and Wimberly, 1982).

The Present Study

The present study is concerned with examining levels and correlates of satisfaction with farming. Of particular interest is the effect of controlling for participation in off-farm work. Using data from a 1977 Iowa survey, the satisfaction of farm husbands and wives is examined. Following an analysis of overall satisfaction levels, the sample is divided into two groups: 1) those who do not work off the farm or those who engage in off-farm work on a half-time or less basis, and 2) those who engage in off-farm work on a more than half-time basis. First, the

husband's satisfaction level is examined controlling for his participation in off-farm work. Second, the wife's satisfaction is examined controlling for her participation in off-farm work. Questions of interest include the extent to which satisfaction levels are different or similar among groups, correlates of satisfaction, and whether or not correlates of satisfaction differ among groups.

REVIEW OF LITERATURE

Considerable research attention has been focused on job satisfaction generally, although little has been directed specifically to satisfaction with farming. In one of the relatively few studies of satisfaction with farming, Bharadwaj and Wilkening (1974) examined satisfaction in relation to aspirations and attainments in husbands' and wives' respective role areas. In the area of attainments, the best predictors of the husband's satisfaction appeared to be level of farm mechanization and level of living, while gross farm income appeared to be the best predictor of the wife's satisfaction. Among aspiration measures, the husband's home aspiration was most predictive of his satisfaction, while the husband's farm aspiration was most predictive of the wife's satisfaction. Bharadwaj and Wilkening concluded that husbands and wives may utilize different conceptual frameworks in evaluating farming, but these frameworks do not simply reproduce traditional sex roles. The wife's satisfaction is not related solely to her home aspirations and attainments, nor is the husband's satisfaction related solely to farm aspirations and attainments.

The data utilized in Bharadwaj and Wilkening's study were gathered in 1962. As Wilkening (1981a) has recently

pointed out, in light of the dramatic changes occurring in production agriculture and the lack of research in this area, these conclusions need to be re-examined.

Due to the lack of research directed to satisfaction with farming, an examination of findings from job satisfaction studies may be helpful in identifying potentially important variables influencing satisfaction with farming. Satisfaction with farming may be seen as a specific case of job satisfaction.

The search for factors related to satisfaction with farming rests, then, on an awareness of the research which has been done on job satisfaction and in the identification of findings relevant to satisfaction with farming in particular. In addition, an understanding of the context of the farming role is important to an understanding of satisfaction with that role.

Job Satisfaction

Job satisfaction has been defined as, "a positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976). "Overall" job satisfaction refers to an evaluation of the job as a whole while "facet-specific" job satisfaction refers to satisfaction with components of the job such as relations with co-workers, challenge, comfort factors, or financial

rewards (Mortimer, 1979).

Typically, overall job satisfaction has been measured as a response to a question such as, "All in all, how satisfied would you say you are with your life?" or "On the whole, would you say that you are satisfied or dissatisfied with the work you do?" (Mortimer, 1979). Facet-specific satisfaction has often been measured with the same type of question, but with regard to a specific job component.

Over the years these types of job satisfaction measures have become the focus of criticism, due in large part to the high rates of satisfaction reported. For example, Mortimer (1979), in a review of job satisfaction literature, reports that usually more than 80 percent of workers in a typical sample report at least moderate job satisfaction. Results such as these have led to a questioning of the validity of this measure. Strauss (1974) states that the centrality of work in our lives may mean that to admit dissatisfaction with one's job is to admit failure in life. These high rates of reported satisfaction might also reflect resolution of cognitive dissonance. If one spends a significant amount of time each week in a given activity, it may be cognitively inconsistent to report dissatisfaction with that activity. Additionally, there may exist a type of response set, resulting in the reporting

of satisfaction with most areas of life.

As a result of these criticisms some investigators have attempted to measure job satisfaction by alternative approaches such as using measures which indicate the difference between what the worker would ideally like and what he or she actually attains. However, Seashore and Taber (1975) have concluded that there is little evidence to argue that these alternative approaches result in any more valid or reliable information than the more direct measures. Furthermore, Mortimer (1979) points out that to compare trends across time and across occupations, a general overall measure may be of more use than more specific measures.

Factors related to job satisfaction

The search for factors related to job satisfaction has led to a variety of models being formulated and tested. One of the major distinctions among correlates of job satisfaction has centered on whether these correlates are internal or external to the worker. Internal factors involve individual characteristics which are thought to influence the worker's response to the job situation. In this vein, researchers have considered the importance of such variables as education, age, sex, race, and other social characteristics, as well as the fit between

the worker and his/her job characteristics (Mortimer, 1979).

External factors involve characteristics of the work itself. Features of the organization are examined as well as characteristics of the occupation. The variables evaluated include closeness of supervision, variety and interest of work, pay and fringe benefits, job security, promotional opportunities, and opportunities to use skills and abilities (Mortimer, 1979). While research has shown that external factors appear to contribute to satisfaction more than internal factors, controversy has centered around the relative importance to job satisfaction of various job and organizational characteristics. One of the more important controversies has involved a hypothesis originally advanced by Herzberg et al. (1959). Herzberg argued that intrinsic features of the job, such as opportunities for achievement, recognition, responsibility, and enjoyment of work itself, contribute to satisfaction with the job. Extrinsic features of the job, such as salary, working conditions, and supervision were not seen as contributing to satisfaction, but if considered inadequate could detract from satisfaction.

In testing another model of job satisfaction, Caston and Braito (1985) found that controlling for the importance that workers attach to increasing their overall job satis-

faction leads to a closer fit between predictor variables and satisfaction. Considerably more variance was explained among workers valuing increased job satisfaction over other job related goals than was explained for individuals who regarded other job related goals, such as increased salary or fringe benefits, as more important than increased job satisfaction. Three variables, in particular, were significantly moderated by the importance of job satisfaction: staff position, age, and enjoyment of social activities related to the job.

Person, job, and organization variables

Srivastva et al. (1977) noted that variables which have been found to affect job satisfaction tend to reflect characteristics of the person, the job, and the organization in which the work takes place. This categorization provides the organizational scheme for the present study.

While this grouping of variables does not lend itself to testing the more elaborate models of job satisfaction, it is this very quality which makes it appealing for use in the present study. Satisfaction with farming has been a relatively neglected topic in the literature. The current analysis is intended more as a preliminary search for related factors than as a test of a more advanced model. Furthermore, the analysis rests on an examination

of a data set which does not contain the type of data most suitable for testing the more advanced models. The scheme does, however, suggest that potentially important variables may be found among characteristics of the person, the job, and the organization.

Person characteristics A person's background characteristics are seen as influencing his/her expectations for employment and ultimate job satisfaction. Person characteristics that have been included in job satisfaction studies are gender, education, and age, among others.

Gender appears to have an influence on the worker's expectations for employment. Studies have shown that women tend to expect less from employment than men. When job attributes such as hours worked and income are held constant, women report being significantly more satisfied than men holding similar positions (Murray and Atkinson, 1981). D'Arcy et al. (1984) have demonstrated that this finding also holds when perceptions of the job, rather than objective job characteristics are held constant.

Education serves to raise expectations for employment. The more highly educated employee appears to require larger rewards in such areas as pay and variety and complexity of the job to be satisfied as compared to the less educated employee. Tannenbaum et al. (1974) report cross-

cultural evidence that education decreases job satisfaction when other variables are controlled.

Age has also been shown to affect job satisfaction. Younger workers tend to be more dissatisfied than older workers (Quinn et al., 1974; Wright and Hamilton, 1978). Wright and Hamilton suggest that younger workers may have objectively poorer jobs but higher aspirations. Evidence has demonstrated that workers alter both their aspirations and satisfaction levels over time so that available rewards and aspirations become increasingly congruent (Hall and Nougaim, 1968; Mortimer and Lorence, 1979; Pennings, 1970).

Thus, several different background characteristics have been reported to be important in influencing the level of job satisfaction. However, the relative importance of these variables and the way these variables relate to farming remain open questions.

Job characteristics Satisfaction with a job is also thought to be associated with the characteristics of the job itself. Researchers have examined the effects of occupational prestige, pay and fringe benefits, as well as characteristics of the work environment.

Generally, higher prestige appears to be related to higher reported satisfaction levels. Professional, technical, and managerial workers report higher levels of satisfaction than semi-skilled and unskilled workers

while those in the intermediate level of prestige also report an intermediate level of satisfaction (Quinn et al., 1979). There is some evidence, however, that while higher prestige occupations provide greater rewards, stress may also be more prevalent among the higher prestige groups.

Financial rewards are generally related to the relative prestige level of an occupation. Considerable evidence points to a positive relationship between pay and satisfaction (Fein, 1976; Locke, 1976; Strauss, 1974; Tannenbaum et al., 1974).

Different occupations are carried on in different work environments and involve different types of activities. Jobs which provide a sense of autonomy, variety, interest, and responsibility tend to be more positively evaluated (Gurin et al., 1960; Kohn and Schooler, 1973). In addition, having positive input in decision-making and freedom from close supervision appear to enhance satisfaction (Kauppinen-Toropainen et al., 1983; Kohn and Schooler, 1973). Workers also report a desire for a pleasant social atmosphere and friendly relations with co-workers (Kauppinen-Toropainen et al., 1983).

Caston and Braitto (1985) evaluated the relationships between overall job satisfaction and various facets of the occupation. Investigating satisfaction with nursing, they examined the effect of enjoyment of the physically

oriented duties of nursing, satisfaction with the available intrinsic rewards of the job, and satisfaction with the available extrinsic rewards of nursing. The researchers concluded that satisfaction with each of the various facets contributed to the evaluation of overall job satisfaction.

Organization characteristics In addition to the characteristics of the person and job, characteristics of the specific organization in which the work is carried out also influence job satisfaction. Of particular importance are size, hierarchical structure, and organizational climate.

Caston and Braito (1985), in their investigation of satisfaction with nursing, evaluated the influence of hospital size, sponsorship, length of time the worker had been employed at the hospital, the worker's staff position, and shift. They reported finding very little contribution to the explanation of the variance in satisfaction by these variables.

However, Friedlander and Margulies (1969) showed that manufacturing workers' perceptions of organizational climate were related to satisfaction. Characteristics of the management, such as esprit de corps and management style, as perceived by the workers, influenced various facets of job satisfaction, particularly satisfaction with interpersonal relations on the job.

The opportunity for advancement is another quality of employment desired by workers (D'Arcy et al., 1984). Workers' perceptions of this opportunity have been found to be related to overall satisfaction. Ivancevich and Donnelly (1975) found that salesmen in organizations with few hierarchical levels were more satisfied with opportunities for self-actualization and with feelings of autonomy than were salesmen in organizations with a greater number of levels.

Other studies have also found support for the idea that satisfaction is related to organizational size, hierarchical structure, centralization of authority, and management style (Locke, 1976; Newman, 1975; Seashore and Taber, 1975). It seems, then, that consideration of organizational variables is important to gaining an understanding of job satisfaction.

In summary, results of studies concerned with job satisfaction point to the potential importance of person, job, and organizational characteristics. However, occupations differ in many respects. While satisfaction with farming may be seen as a particular case of general job satisfaction, the specific qualities of the farming occupation must also be considered.

The Farming Role

Farming may be seen as taking place within a network of roles. The "work-farm-family role system," of which the farming role is a primary element, provides a useful tool for analysis of the farming role.

The concept of the work-farm-family role system is an extension of the "work-family role system" identified by Pleck (1977). Pleck argued that the work and family roles of the husband and wife in a nuclear family form a system of roles. A party's involvement in a role within the system may vary from a high degree of involvement to no involvement at all. For example, a wife may be highly involved in her family role and not involved in work outside the family. Alternatively, both husband and wife could be involved equally in work and family roles.

Identification of a role system allows for a consideration of the interplay of relevant aspects of the various roles played by individuals. Analysis of the relationships among the parts of the system involves a consideration of how variation in one element of the system affects and is affected by the other elements. For example, analysis may center on the extent to which roles conflict, whether or not aspects of roles "spill over" into other roles, the extent to which rewards associated with one role compensate for lack of rewards associated with another

role, or on how relative involvement in one role affects level of involvement in another role. The work-family role system is presented in Figure 1.

The work-farm-family role system

The work-family role system concept may be expanded to fit the roles of the farm family. Boulding (1980) points out that farm men and women, in addition to farm work and family roles, may have nonfarm work roles as well. Furthermore, on many farms, children contribute significant amounts of labor. The "work-farm-family role system" includes the off-farm work roles of the husband and wife, farm work roles for both, and farm, work, and family roles for the children (Figure 2).

Relationships between off-farm work roles and family roles and between farm roles and family roles may be analyzed as work-family interfaces. Kanter (1977) points out that work influences the family in a number of ways, but the family, in turn, influences the work situation. First, cultural traditions may be transmitted from generation to generation. Straus (1956) has identified a family farming tradition. Farming values such as love of the land, respect for hard work, family cooperation, and independence from outside influence are part of the typical farm family's value system. Because the farm family is often

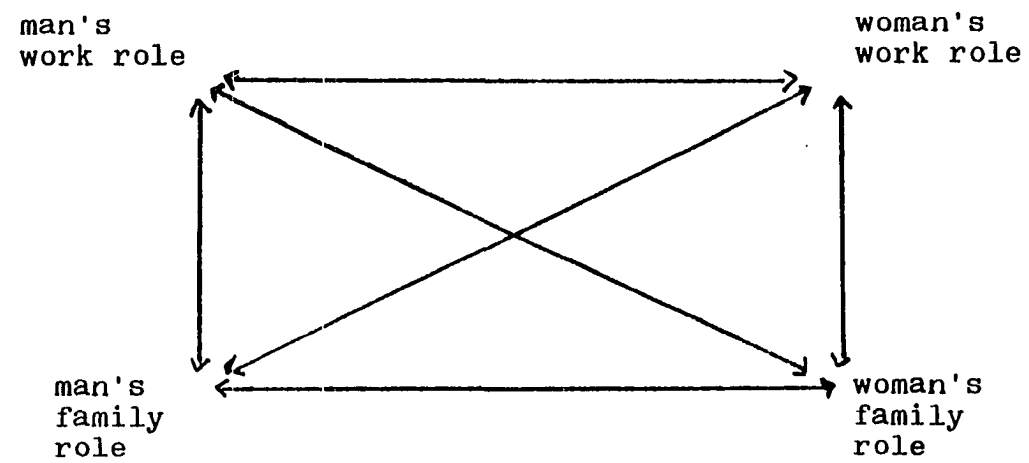


Figure 1. The work-family role system

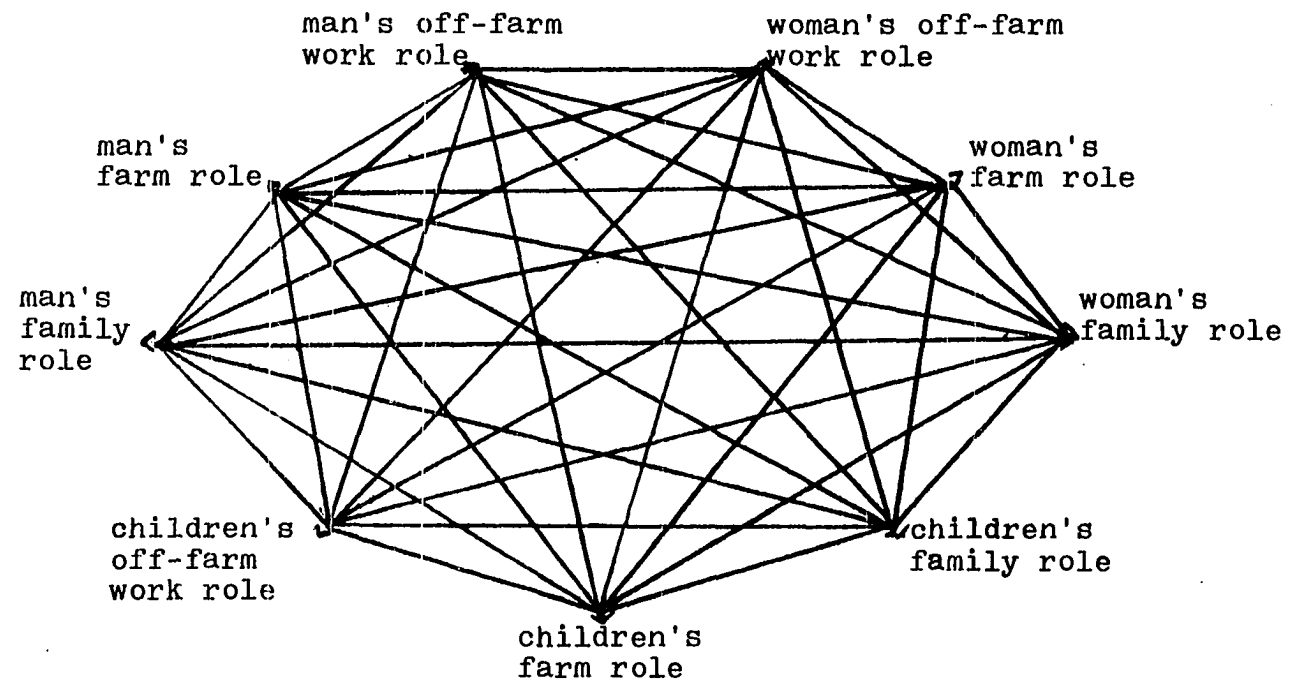


Figure 2. The work-farm-family role system

the work unit, the extent to which these values are part of the family's value system and the specific interpretation of these values within the family may have implications for the farm business.

Kanter (1977) identifies a specific type of occupation which she terms "absorptive." These occupations are characterized by a close connection between work and family. In these situations, family life tends to be dominated by the occupation, home and workplace often coincide, and family members are typically involved in the work, either formally or informally. In these situations, the emotional climate of the family may have a stronger influence on the work situation than when work and family are more easily separated.

The literature contains conflicting evidence as to the strength of the relationship between family and job satisfaction. Two opposing models of this relationship have been identified. The spill-over model proposes that satisfaction in one area of life carries over into other areas, while the compensatory model proposes that one area of an individual's life might compensate for dissatisfaction in another area (Faunce and Dubin, 1975; Pond and Green, 1983). Kanter (1977) suggests that the spill-over model is likely to be supported when considering occupations such as farming, where the lines between work and

family are difficult to draw and an individual may move easily from one role to another.

Farm and family roles tend to be closely related. Farming generally takes place within a family run business. Farm work is done in the same physical location as the family role is carried out. Farm families often work together, and farm and family roles may be played simultaneously.

The relationship between the off-farm work role and the family role is likely to be considerably different when compared to the farm role-family role relationship. Off-farm work is generally less flexible, i.e., in terms of hours worked and overlapping of roles, and is removed from the place of residence. Once the production function is removed from the home site, the potential for role conflict and role overload may be magnified (Marks, 1977).

The effect of the off-farm work role on satisfaction with farming is difficult to predict. First, it may lead to increased satisfaction with the farming role. Individuals engaging in both off-farm and farm roles may welcome the time spent in the farming role as an opportunity to engage in an inherently rewarding activity and as a release from the pressures of the off-farm work role. Second, however, working both off the farm and on the farm may result in role overload or role conflict, possibly

leading to a heightened dissatisfaction with farming.

The Analysis

The present study is based on the recognition that off-farm work may be a significant factor in satisfaction with farming but may operate differently for different individuals and families. For this reason, it is of interest to compare satisfaction levels for those who do not work off the farm or work off the farm less than half time with those who work off the farm half time or more.

First, satisfaction levels will be reported for 1) husbands not working off the farm or working half-time or less, 2) husbands working off the farm more than half-time, 3) wives not working off the farm or working half-time or less, and 4) wives working off the farm more than half-time. In addition, the satisfaction levels of the husbands and wives in these groups will be reported based on whether or not their spouses work off the farm.

Relatively high rates of satisfaction are to be expected since job satisfaction studies generally result in the majority of respondents reporting being satisfied. Further, in a previous analysis of satisfaction with farming, Hoiberg and Bultena (1983) found that 90 percent of their respondents were either satisfied or very satisfied. Wilkening (1981b) reported on farm couples' satis-

faction with various aspects of farming. Over 80 percent of both husbands and wives reported being at least mostly satisfied with their life in general and with the amount and kind of farm work they do. However, only 33 percent of the sampled husbands and 51 percent of the sampled wives reported satisfaction with the income gained from farming.

Predicted relationships

The primary objective of the present analysis involves a search for factors related to satisfaction with farming. Based on relevant findings from the job satisfaction literature and on an understanding of the farm role as an element of the work-farm-family role system, a series of research hypotheses are evaluated. Each hypothesis is tested separately for the husband and wife.

Person variables Job satisfaction studies have demonstrated that personal background characteristics may influence job satisfaction by influencing expectations for employment. Studies have demonstrated that in similar situations older workers tend to be more satisfied than younger workers (Quinn et al., 1974; Wright and Hamilton, 1978) while more highly educated workers tend to be less satisfied than the less well-educated workers (Tannenbaum et al., 1974). The following rela-

tionships are hypothesized:

H1 The older the husband/wife, the greater the satisfaction with farming.

H2 The more educated the husband/wife, the lower the satisfaction with farming.

Job variables Characteristics of the job have also been shown to influence satisfaction. It is hypothesized that the extent of the involvement in a role will be related to an identification with that role and therefore with satisfaction levels.

H3 The greater the amount of time the husband/wife spends in farm labor, the greater the satisfaction with farming.

Studies of job satisfaction suggest that level of input into decisions may be positively related to job satisfaction (Kauppinen-Toropainen et al., 1983; Kohn and Schooler, 1973). However, in a review of studies dealing with marital quality, Lewis and Spanier (1979) concluded that equalitarian decision-making on the part of husbands and wives results in greater marital satisfaction than relative dominance on the part of either the husband or wife. Since the farm family often functions as a work unit, equality in decision-making may result in greater satisfaction with farming than a high level of input by one individual. Therefore, it is hypothesized:

- H4 The greater the level of equality in decision-making, the greater the satisfaction with farming.

A related concern involves the autonomy of the worker. Workers who experience feelings of autonomy on the job tend to be more highly satisfied (Gurin et al., 1960; Kohn and Schooler, 1973). The level of farm debt may indicate the extent to which the farm family is free to make their own decisions versus the extent to which the lending agency has input into decisions. Further, the extent to which land in the operation is owned by the family may be an indication of autonomy. It is hypothesized:

- H5 The greater the farm debt, the lower the satisfaction with farming.
- H6 The greater the proportion of cropland acres that is owned, the greater the satisfaction with farming.

Organizational variables A third group of hypotheses to be tested in this study involves the relationships between characteristics of the farm organization and satisfaction. The measure of farm scale used is gross farm sales and may reflect the size of the organization as well as the overall success of the farming operation. It is hypothesized:

- H7 The greater the gross farm sales, the greater the satisfaction with farming.

Length of time in control of the organization as operator of a farm may influence satisfaction in that workers appear to alter aspirations over time so that available rewards and aspirations become increasingly congruent (Hall and Nougaim, 1968; Mortimer and Lorence, 1979; Pennings, 1970). Further, with increased longevity, the farm organization may be likely to increasingly take on characteristics valued by the person/persons in charge. It is hypothesized:

- H8 The greater the number of years the husband has been the operator of the farm, the greater the satisfaction with farming.

Work-farm-family role system variables A fourth set of hypotheses are suggested by the work-farm-family role system. Since the farm family and farm organization tend to be closely connected, participation in and satisfaction with other roles in the system may significantly influence satisfaction with farming. It is hypothesized:

- H9 The more time the spouse spends in farm labor, the greater the satisfaction with farming.
- H10 The greater the husband's/wife's satisfaction with the family, the greater the satisfaction with farming.

H11 The greater the spouse's satisfaction with farming, the greater the satisfaction with farming.

In addition to reporting on bivariate-level tests of the hypotheses, results of a multivariate test will also be reported. Relationships are expected to be in the same direction as in the bivariate relationships.

METHODS

Data used in this analysis were collected in 1977 from a sample of 933 farm operators and their spouses. The sample was an area probability sample representing all Iowa counties and all Iowa family farms having gross agricultural sales of at least \$2500 for the previous year. Only those farm households in which a husband and wife were both present were selected as the sample for the current study, resulting in a useable sample of 845 couples.

Since it is of interest to compare husbands' and wives' satisfaction with farming while controlling for levels of off-farm work, the sample was divided, first, on the basis of the husband's off-farm work. This resulted in two subsamples. One subsample represents those couples in which the husband did not work off the farm or worked off the farm on a half-time or less basis. These men are referred to as "full-time farmers" for the remainder of this paper. Included in this subsample are 731 couples. The second subsample represents those couples in which the husband worked off the farm more than half-time. These men are referred to as "part-time farmers" for the remainder of this paper. This subsample consists of 107 couples. Relationships between the independent variables

and the husbands' satisfaction with farming were assessed for each of these subsamples.

Second, the total sample of 845 couples was divided on the basis of the wives' off-farm work. Included in the subsample of couples in which the wife did not work off the farm or worked half-time or less are 729 couples. The women in this group will be referred to as "full-time farm women." The subsample of couples in which the wife worked more than half-time consists of 107 couples. Women in this group will be referred to as "part-time farm women." Relationships between independent variables and wives' farming satisfaction were assessed for each of these subsamples.

Off-farm work was estimated from self-reports of hours spent in off-farm labor. Information on labor hours was requested separately for each season of the year. Total hours spent in off-farm labor per year were calculated and used as the basis for distinguishing between full and part-time farmers and farm women.

Full-Time and Part-Time Farmers

When the total sample is divided based on the husbands' off-farm work, several differences between the subsamples are evident. First, part-time farmers tended to be younger than full-time farmers. This difference may be due, in

part, to retirement regulations governing participation in off-farm work as well as greater financial need among younger farmers. Ages of full-time farmers range from 21 to 80 with a mean of 49. Ages of part-time farmers range from 21 to 64 with a mean of 41.

Consistent with the age differences between these two subsamples, full-time farmers tend to have operated their farms for a greater number of years than part-time farmers. The full-time farmers had operated their farms an average of 24 years compared to an average of 15 years for the part-time farmers.

Educational differences are also evident between the two groups. Seventy-eight percent of the part-time farmers had graduated from high school. Fifteen percent had finished college. Of the full-time farmers, only 67 percent had finished high school and less than five percent had finished college.

Part-time farmers were considerably more likely to have children present in the home than were full-time farmers. Eighty-six percent of the part-time farmers had children at home compared to 66 percent of full-time farmers.

As might be expected, part-time farmers tended to operate smaller farms than full-time farmers. Part-time farmers operated farms averaging 140 cropland acres and

annual gross agricultural sales of \$41,000. Full-time farmers, on the other hand, operated farms averaging 300 cropland acres and over \$90,000 in annual gross agricultural sales.

Full-Time and Part-Time Farm Women

When the sample is divided based on the wives' off-farm work, differences between the subsamples similar to those found for men are seen. The part-time farm women ranged in age from 20 to 65, with a mean of 40. The full-time farm women ranged in age from 18 to 82 with a mean age of 46. Ninety-two percent of the part-time farm women had graduated from high school compared to 84 percent of the full-time farm women. Part-time farm women were twice as likely to be college graduates as full-time farm women, 10 percent and 5 percent, respectively. Part-time farm women were slightly more likely to have children present in the home, but the difference appears negligible. Thirty-three percent of the part-time farm women had children at home, compared to 30 percent of the full-time farm women.

Differences in farm size, although evident, were not as great between these two groups as when the sample is divided based on the husbands' off-farm work. Full-time farm women came from farms averaging approximately 300

cropland acres and annual gross agricultural sales of approximately \$90,000. Part-time farm women came from farms averaging approximately 250 cropland acres and annual gross sales of \$85,000.

The couples had been operating their farms for an average of 20 years among the part-time farm women. Among the full-time farm women, the average was 24 years.

Variables Measured

The dependent variable

The dependent variable in this analysis is an overall measure of satisfaction with farming. Husbands were asked, "Considering other occupations that you could have gone into, how satisfied are you with farming?" Wives responded to the question, "Considering other occupations that your husband could have gone into, how satisfied are you with farming?"

Responses were initially measured on a five point scale varying from a low of "not satisfied" to a high of "very satisfied." Because of the extremely skewed distribution of the responses, choices "1" through "4" were collapsed into one category. This resulted in a dichotomous variable with one category for those reporting being "very satisfied" and the second category for those reporting being

"less satisfied."

The skewed nature of the original distribution would have made statistical analyses which rely on an assumption that the dependent variable is normally distributed difficult to interpret. Approximately 60 percent of all husbands and 70 percent of all wives in the sample reported being very satisfied. Recoding farm satisfaction as a dichotomous variable results in a variable which can be profitably analyzed by procedures not requiring the normality assumption. In addition, the extremely high levels of satisfaction generally reported in job satisfaction studies suggest that the most theoretically meaningful distinction may be between those reporting very high levels and those reporting even slightly lower levels of satisfaction.

Independent variables

The independent variables in this analysis involve variables reflecting personal, job, and organizational characteristics as well as characteristics of the work-farm-family role system. Descriptive statistics for the independent variables are presented in Table 1.

Personal characteristics examined include age and education. Age was indicated by a self-report. Education was calculated from the respondents' self-report of highest grade completed. These grade levels were recoded as

Table 1. Distribution of independent
variables included in the analysis

variable	full-time farmers			part-time farmers		
	mean	s.d.	% high sat.	mean	s.d.	% high sat.
age	48.8	12.7		41.2	10.5	
education	4.8	1.7		5.7	2.3	
farm labor	2,843	1,101		1,242	756	
decision- making	8.2	2.2		8.2	2.4	
farm debt	42,003	73,592		59,273	207,655	
tenure	56.6	40.2		66.2	42.2	
gross farm sales	109,446	84,993		40,700	76,024	
years operator	24.2	12.3		14.6	11.7	
spouse's farm labor	466.2	649.8		459.3	643.6	
family satisfaction			66.8			49.5
spouse's farming satisfaction			72.1			58.9

full-time farm women			part-time farm women		
mean	s.d.	% high sat.	mean	s.d.	% high sat.
45.5	12.9		41.6	11.5	
5.3	1.6		6.0	2.3	
507	673		171	302	
8.4	2.2		7.3	2.1	
45,662	103,007		32,609	57,076	
58.9	40.2		49.1	42.5	
90,707	87,288		84,756	77,314	
23.5	12.5		19.7	12.7	
2,634	1,198		2,744	1,110	
		62.1			36.4
		61.0			50.5

suggested by Carter (1971) (1-7=1, 8=3, 9-11=4, 12=5, 13-15=9, 16=10, 17+=13). Carter points out that the effect of education on other aspects of an individual's life may not be linear when education is coded simply as the years of education attained. The difference between, for example, 12 years of schooling and 11 may be greater than the difference between 10 and nine years. Therefore, recoding based on average change in income associated with increased levels of education generally results in a better fit between education levels and the linear model.

Job characteristics included as independent variables reflect involvement in the farming role and relative autonomy of the farm couple. Involvement in the farm role was indicated by time spent in farm labor. Husbands and wives were asked to estimate hours spent in farm labor for each season of the year. The farm labor variables represent an estimate of the total number of hours spent in farm labor by the individual for the total year.

Equality in decision-making was derived from a set of four items on farm related decisions regarding whether to change the size of the business, when to sell farm output, whether to try a new crop variety, and whether the operator takes an off-farm job. Husbands were asked to indicate the extent to which these decisions were shared with their wives or were made primarily by one of the

spouses. Responses to the four items were totaled. Possible values of the total score range from four to 12. Higher values reflect relatively equalitarian decision-making. Lower values reflect relative dominance by either the husband or wife, in this case, primarily the husband. Cronbach's alpha equals .70.

The relative autonomy of the farm couple in making farm decisions and engaging in farm work may be indicated by the levels of farm debt and tenure. Farm debt was calculated as the total dollar value of debt owed on land, machinery, and livestock. Tenure represents the percentage of cropland acres in the operation that are operator owned.

Gross farm sales and years as operator are included as characteristics of the farm organization. Gross farm sales is the dollar value of crop inventory, swine, sheep, beef cows, and milk sold during the previous year. Years as operator were calculated as the number of years the farm had been operated by the couple.

Additional independent variables reflect aspects of the work-farm-family role system. Family satisfaction was initially measured on a five point scale. It was recoded into a dichotomous variable representing a distinction between those who reported the highest level of satisfaction and those who reported lower levels. The spouse's farming satisfaction and spouse's farm labor are the

the counterparts of the similar variables previously described.

Testing Relationships

Relationships between independent variables and satisfaction with farming were examined for each subsample on the bivariate level. The t-test statistic was computed to assess relationships between the dependent variable and independent variables measured on a continuous scale. Contingency tables were examined in testing relationships between the dependent variable and nominal level independent variables. The chi-square statistic and significance level are reported for each relationship tested.

As a summary measure of the relationship between the dependent variable and independent variables and in order to reveal relationships possibly obscured by interrelationships among variables, a discriminant analysis was performed for each subsample. A forward stepwise technique was used with Wilk's lambda as the selection criterion and a tolerance of .001, with F-to-enter and F-to-remove both 1.0.

Discriminant analysis was selected as the most appropriate technique for this analysis due to the structure of the distribution of the dependent variable. Since initially reported levels of satisfaction were highly skewed, the assumption of a normally distributed dependent variable could not be met. Techniques relying on this assumption,

such as multiple linear regression, would not be appropriate. The recoding of satisfaction levels into a dichotomous variable allows for the use of a multivariate technique not relying on this assumption.

Discriminant analysis is an appropriate technique when several independent variables are included in the analysis, and the dependent variable is measured on the nominal level. Independent or classification variables may be either continuous or binary coded. The technique results in the development of a linear equation designed to achieve maximum separation among groups. Data considerations include: 1) that each case have a value for each of the variables used in the analysis, and 2) that classification variables are assumed to be from a multivariate normal distribution (Norusis, 1985).

RESULTS

As expected, high levels of satisfaction were reported by both husbands and wives. As shown in Table 2, 59.5 percent of the men and 70.4 percent of the women reported being very satisfied with farming. Part-time farmers were somewhat less likely to report being very satisfied than were full-time farmers. Part-time farm women were also less likely to report a high level of satisfaction than were full-time farm women.

Percentages of men and women reporting each level of satisfaction for the various combinations of husband and wife participation in off-farm work are shown in Table 3. The most satisfied group is that group made up of full-time farmers and full-time farm women. The least satisfied group is that group made up of part-time farmers and part-time farm women.

Men's Satisfaction with Farming

Relationships between the independent variables and men's satisfaction with farming were assessed separately for full-time farmers and part-time farmers. Support was found for several of the hypothesized relationships.

Table 2. Number and percent of respondents reporting levels of satisfaction with farming by participation in off-farm work

satisfaction level	full-time farmers	part-time farmers	total farmers	full-time farm women	part-time farm women	total farm women
high	(442) 60.5%	(58) 54.2%	(503) 59.5%	(535) 73.6%	(57) 53.3%	(595) 70.4%
low	(279) 38.2%	(44) 41.1%	(327) 38.7%	(192) 26.4%	(50) 46.7%	(242) 28.6%

Table 3. Number and percent of respondents reporting levels of satisfaction with farming by spouse's participation in off-farm work

satisfaction levels	full-time farmers/ full-time farm women	full-time farmers/ part-time farm women	part-time farmers/ full-time farm women	part-time farmers/ part-time farm women
men				
high	(395) 62.8%	(43) 51.8%	(47) 58.8%	(11) 50.0%
low	(234) 37.2%	(40) 48.2%	(33) 41.3%	(11) 50.0%
women				
high	(478) 74.9%	(46) 55.4%	(54) 64.3%	(9) 40.9%
low	(160) 25.1%	(37) 44.6%	(30) 35.7%	(13) 59.1%

Full-time farmers

Results of the bivariate analyses for the subsample composed of full-time farmers are presented in Table 4. For full-time farmers, support was found at the bivariate level for the notion that characteristics of the person affect satisfaction with farming. As hypothesized (H1), age was found to be positively related to satisfaction ($p < .05$). Education also emerged as a significant predictor of satisfaction (H2). Those who reported being less than very satisfied with farming had attained significantly higher levels of education than those who reported high satisfaction ($p < .05$).

Support for the hypothesized relationships between job variables and satisfaction was minimal. Farm labor was found to be significantly related to satisfaction but in the opposite direction from that predicted (H3). The more time spent by full-time farmers in farm labor, the less likely they were to report being very satisfied. No support was found for the hypothesized relationships between farm satisfaction and equality in decision-making (H4) or farm debt (H5). Support was demonstrated for H6. Full-time farmers owning a higher percentage of cropland acres operated were more likely to report being very satisfied than were those owning a lower percentage of cropland acres operated ($p < .01$).

Table 4. Full-time farmers: chi-square and t-test results of relationships between independent variables and satisfaction

Variable	Percent reporting high satisfaction	Chi-square	Mean reporting high satisfaction	Mean reporting low satisfaction	T	df
age			49.47	47.50	-2.05*	718
education			4.75	4.98	1.70*	716
farm labor			2,786	2,925	1.66*	712
decision-making			8.34	8.08	-1.58	681
farm debt			43,733	39,917	-0.66	703
tenure			59.98	50.87	-2.96**	712
gross farm sales			98,148	93,018	-0.76	671
years operator			25.16	22.62	-2.79**	627
wife's farm labor			451.95	481.93	0.59	706
family satisfaction						
high	73.9					
low	35.5	96.64**				
wife's farming satisfaction						
high	71.8					
low	34.7	80.39**				

* p significant at .05.

** p significant at .01.

Moderate support was also found for relationships between organizational variables and satisfaction with farming. Gross farm sales was not found to be related to farm satisfaction (H7). However, the longer the farm business had been operated by the farmer, the more likely he was to be satisfied (H8) ($p < .01$).

Considerable support was found for the hypotheses relating role system variables with farm satisfaction. Both family satisfaction (H9) and the spouse's farm satisfaction (H10) were found to be positively related to farm satisfaction ($p < .01$). However, the hypothesized relationship between the wife's farm labor and the husband's satisfaction with farming was not supported (H11).

The next phase of the analysis involved a discriminant analysis aimed at developing a formula to distinguish between the two groups of full-time farmers: 1) those reporting high farm satisfaction and 2) those reporting less farm satisfaction. Age was not included in this phase of the analysis due to its high intercorrelation with the years as operator variable. In addition, the natural log of gross farm sales was computed in order to normalize the distribution of the variable and used in the discriminant analysis. The variables entered and associated lambdas are presented in Table 5. Only two variables were selected by the stepwise procedure for

Table 5. Full-time farmers: Wilk's lambda associated with independent variables prior to stepwise selection

Variable	Wilk's lambda	F	Significance
education	0.990	0.790	0.457
farm labor	0.998	1.276	0.259
decision-making	0.996	1.991	0.159
farm-debt	0.999	0.039	0.843
tenure	0.995	2.907	0.089
gross farm sales (log)	0.999	0.317	0.574
years operator	0.995	2.815	0.094
wife's farm labor	0.999	0.605	0.437
family satisfaction	0.863	90.250	0.000
wife's farming satisfaction	0.913	54.190	0.000

inclusion in the equation (canonical correlation=.42). At step 1, the husband's satisfaction with family life was entered. At step 2, the wife's satisfaction with farming was selected (Table 6).

Part-time farmers

Next, the hypothesized relationships were assessed among part-time farmers. Results of the bivariate analysis are presented in Table 7. At the bivariate level, no support was found among part-time farmers for the hypothesized relationships between age (H1) and education (H2). However, support was found for the hypothesized relationship between farm labor and farm satisfaction (H3) ($p < .05$). In contrast to full-time farmers, part-time farmers who spent greater amounts of time in farm labor were more likely to report high farm satisfaction than were those spending less time in farm labor.

Decision-making patterns also emerged as significantly related to farm satisfaction for these part-time farmers (H4). Men whose wives tended to participate in farm decisions were more likely to be satisfied with farming than men whose wives participated to a lesser extent ($p < .01$).

No support was found for the hypothesized relationships between satisfaction with farming and farm debt

Table 6. Full-time farmers: results of stepwise
discriminant analysis selection of variables

Variable	Step	Wilk's lambda	Significance
family satisfaction	1	0.863	0.000
wife's farming satisfaction	2	0.820	0.000
N=715 Eigenvalue=0.22 Canonical correlation=0.42 % correctly classified by function=71.53			

Table 7. Part-time farmers: chi-square and t-test results of relationships between independent variables and satisfaction

Variable	Percent reporting high satisfaction	square	Mean reporting high satisfaction	Mean reporting low satisfaction	T	df
age			40.74	41.49	0.35	100
education			5.72	5.73	0.01	100
farm labor			1,381	1,079	-1.99*	98
decision-making			8.69	7.45	-2.60**	95
farm debt			72,769	19,737	-1.72	93
tenure			65.65	63.76	-0.22	97
gross farm sales			51,240	29,907	-1.39	91
years operator			14.02	14.65	0.26	92
wife's farm labor			499.32	362.20	-1.09	99
family satisfaction						
high	67.9					
low	44.9	4.60*				
wife's farming satisfaction						
high	65.0					
low	43.9	3.59*				
* p significant at .05. ** p significant at .01.						

(H5), tenure (H6), gross farm sales (H7), years as operator (H8), or spouse's farm labor (H9). Support was demonstrated for H10 and H11. Part-time farmers reporting a high level of satisfaction with their family life were also likely to report a high level of satisfaction with farming ($p < .01$). Those whose wives reported a high level of satisfaction with farming were themselves likely to report being satisfied with farming ($p < .01$).

The discriminant analysis was conducted for the subsample composed of part-time farmers in a similar manner to the analysis of the subsample of full-time farmers. The variables entered and associated lambdas are presented in Table 8. For part-time farmers, five variables were selected by the stepwise procedure for inclusion in the equation: at step 1, the husband's farm labor; at step 2, the wife's satisfaction with farming; at step 3, equality in decision making; at step 4, farm debt; and at step 5, the husband's satisfaction with the family (canonical correlation = .43) (Table 9). The relationship between farm debt and satisfaction with farming was in the opposite direction from that hypothesized. Higher levels of debt are associated with higher satisfaction. Farm debt may be more a reflection of success in farming than autonomy as initially suggested.

Table 8. Part-time farmers: Wilk's lambda associated with independent variables prior to stepwise selection

Variable	Wilk's lambda	F	Significance
education	0.983	0.435	0.271
farm labor	0.930	5.303	0.024
decision-making	0.964	2.646	0.108
farm-debt	0.971	2.132	0.149
tenure	0.996	0.264	0.609
gross farm sales (log)	0.975	1.786	0.186
years operator	0.996	0.293	0.590
wife's farm labor	0.989	0.774	0.382
family satisfaction	0.977	1.693	0.197
wife's farming satisfaction	0.959	3.024	0.086

Table 9. Part-time farmers: results of stepwise
discriminant analysis selection of variables

Variable	Step	Wilk's lambda	Significance
farm labor	1	0.930	0.024
wife's farming satisfaction	2	0.892	0.018
decision-making	3	0.866	0.019
farm debt	4	0.830	0.012
family satisfaction	5	0.817	0.017
N=94 Eigenvalue=0.22 Canonical correlation=0.43 % correctly classified by function=67.02			

Women's Satisfaction with Farming

Next, the total sample was divided based on the women's off-farm work. Support for the hypothesized relationships was investigated separately for full-time farm women and part-time farm women.

Full-time farm women

Results of the bivariate analysis for the subsample composed of full-time farm women are presented in Table 10. Support was found at this level for the hypothesized relationship between age and satisfaction with farming (H1) ($p < .01$). No support was found for the hypothesized relationships between farm satisfaction and education (H2), farm labor (H3), decision-making (H4), or farm debt (H5). However, tenure did emerge as a significant predictor of farm satisfaction. Those reporting a high level of satisfaction owned significantly higher percentages of cropland acres than those reporting lower levels (H6) ($p < .05$). While no evidence of a relationship was found between farm satisfaction and gross farm sales (H7) or spouse's farm labor (H9), support was demonstrated for H8. The greater number of years the farm had been operated by the farm couple, the greater the satisfaction with farming ($p < .01$). Support was also demonstrated for the hypothesized relationships between the wife's satisfaction with farming

Table 10. Full-time farm women: chi-square and t-test results of relationships between independent variables and satisfaction

Variable	Percent reporting high satisfaction	Chi-square	Mean reporting high satisfaction	Mean reporting low satisfaction	T	df
age			46.34	43.15	-3.14**	381
education			5.27	5.43	1.11	721
farm labor			485.74	570.12	1.49	720
decision-making			8.41	8.21	-1.04	675
farm debt			45,684	39,413	-0.91	563
tenure			60.47	54.58	-1.73*	714
gross farm sales			92,986	83,329	-1.36	366
years operator			24.32	21.27	-2.86**	709
husband's farm labor			2,619	2,688	0.69	713
family satisfaction						
high	81.9					
low	60.0	40.92**				
husband's farming satisfaction						
high	84.7					
low	56.0	69.92**				

* p significant at .05.

** p significant at .01.

and satisfaction with the family (H10) and the husband's satisfaction with farming (H11). Both were found to be positively related to the full-time farm women's satisfaction with farming.

Variables included as independent variables in the discriminant analysis and associated lambdas are listed in Table 11. Four variables were selected by the procedure for inclusion in the discriminant equation: at step 1, husband's satisfaction with farming; at step 2, wife's satisfaction with family; at step 3, log of gross farm sales; and at step 4, tenure (canonical correlation=.35) (Table 12). Of the selected variables, only gross farm sales had not been shown to be related to farm satisfaction at the bivariate level. The relationship was in the predicted direction, with greater sales being associated with higher satisfaction.

Part-time farm women

Among the subsample of part-time farm women, support was demonstrated for several of the hypothesized relationships. Results of the bivariate analysis for the subsample composed of part-time farm women are presented in Table 13. Older women tended to be more satisfied with farming than younger women (H1) ($p < .01$). Support was also found for the predicted association between tenure and satisfaction.

Table 11. Full-time farm women: Wilk's lambda associated with independent variables prior to stepwise selection

Variable	Wilk's lambda	F	Significance
education	0.999	0.790	0.374
farm labor	0.998	1.297	0.255
decision-making	0.999	0.491	0.484
farm-debt	0.999	0.297	0.586
tenure	0.995	2.624	0.106
gross farm sales (log)	0.999	0.339	0.561
years operator	0.990	5.386	0.021
husband's farm labor	0.999	0.071	0.790
family satisfaction	0.948	30.380	0.000
husband's farming satisfaction	0.915	51.850	0.000

Table 12. Full-time farm women: results of stepwise discriminant analysis selection of variables

Variable	Step	Wilk's lambda	Significance
husband's farming satisfaction	1	0.915	0.000
family satisfaction	2	0.882	0.000
gross farm sales (log)	3	0.880	0.000
tenure	4	0.877	0.000
N=614 Eigenvalue=0.22 Canonical correlation=0.42 % correctly classified by function=71.53			

Table 13. Part-time farm women: chi-square and t-test results of relationships between independent variables and satisfaction

Variable	Percent reporting high satisfaction	Chi-square	Mean reporting high satisfaction	Mean reporting low satisfaction	T	df
age			42.72	40.53	0.98	105
education			6.29	5.79	1.12	104
farm labor			140.73	196.37	-0.94	103
decision-making			7.53	7.07	1.12	102
farm debt			27,654	46,122	-1.65	100
tenure			49.93	48.45	0.18	104
gross farm sales			78,143	90,332	-0.76	92
years operator			20.15	19.25	0.36	101
husband's farm labor			2,765	2,725	0.19	105
family satisfaction						
high	69.2					
low	44.1	5.31**				
husband's farming satisfaction						
high	66.7					
low	39.6	6.80**				

*p significant at .05.

Women reporting high levels of farm satisfaction tended to come from farms with higher percentages of cropland acres operator owned (H6) ($p < .05$). A positive relationship was also found between years as operator and satisfaction (H8) ($p < .01$). As in the other subsamples, satisfaction with family life (H10) and the spouse's satisfaction with farming (H11) were both found to be positively related to satisfaction with farming ($p < .01$). No support was found for the other hypothesized relationships.

Variables included as independent variables in the discriminant analysis and associated lambdas are presented in Table 14. Four variables were selected by the stepwise procedure for inclusion in the equation: at step 1, husband's satisfaction with farming; at step 2, farm debt; at step 3, wife's satisfaction with the family; and at step 4, the wife's farm labor (canonical correlation=.35) (Table 15).

Table 14. Part-time farm women: Wilk's lambda associated with independent variables prior to stepwise selection

Variable	Wilk's lambda	F	Significance
education	0.994	0.485	0.488
farm labor	0.987	1.076	0.303
decision-making	0.986	1.222	0.272
farm debt	0.942	5.147	0.026
tenure	0.999	0.068	0.795
gross farm sales (log)	0.993	0.568	0.453
years operator	0.992	0.652	0.421
husband's farm labor	0.999	0.088	0.768
family satisfaction	0.966	2.912	0.092
husband's farming satisfaction	0.939	5.425	0.022

Table 15. Part-time farm women: results of stepwise discriminant analysis selection of variables

Variable	Step	Wilk's lambda	Significance
husband's farming satisfaction	1	0.939	0.022
farm debt	2	0.905	0.016
family satisfaction	3	0.889	0.021
farm labor	4	0.878	0.030
N=105 Eigenvalue=0.14 Canonical correlation=0.35 % correctly classified by function=62.86			

DISCUSSION

The purpose of this study was to examine rates and correlates of satisfaction with farming and to attempt to account for variation in reported satisfaction levels. It was anticipated that this research could begin to fill the gap in knowledge existing in this area. Considerable research attention has focused on job satisfaction, but little has been done specifically dealing with satisfaction with farming.

Both husbands' and wives' satisfaction levels were examined. The potential effect of off-farm work was controlled for by analyzing satisfaction separately for those who did not work off the farm or those who worked off the farm on a half-time or less basis (full-time farmers and farm women) and for those who worked off the farm more than half-time (part-time farmers and part-time farm women).

Controlling for the possible effects of off-farm work was deemed important in that participation in off-farm work could potentially enhance satisfaction with farming or detract from it. For those who work in other occupations, farming may provide an alternative source of satisfaction, particularly through the nonfinancial rewards available. However, having both farm and nonfarm responsibilities may lead to diminished satisfaction as

a result of incompatible demands and role overload. Further, off-farm work may be pursued for a variety of reasons including the need to supplement family income, the need to bring additional capital into the farming operation, a desire to pursue nonfarm interests, or a desire to escape from farming duties.

High rates of satisfaction with farming were found for husbands and wives across both levels of participation in off-farm work. The search for factors predictive of satisfaction levels revealed several interesting findings.

Results of the analysis suggest the importance of the work-farm-family role system. Satisfaction with the family and the spouse's satisfaction with farming emerged as variables contributing significantly to the distinction between those who report a high level of satisfaction with farming and those who report lower levels. Furthermore, these results were found for both men and women and for those who worked off the farm more than half-time as well as for those who did not. These findings emphasize the close interdependence of farm and family life.

The results of the analysis also serve to reinforce the idea that personal characteristics may be predictive of job satisfaction, specifically farming satisfaction. Older full-time farmers as well as older full- and part-time farm women demonstrated higher levels of satisfaction

than did younger individuals in these groups. A negative effect of education was found for full-time farmers. However, neither age nor education contributed significantly to the explanation of difference in satisfaction when controlling for the effects of the other independent variables entered into the discriminant analysis.

Differences between those involved full-time in farming and those involved part-time were found when examining relationships between characteristics of the job and farm operation and satisfaction with farming. It was hypothesized that persons spending greater amounts of time in farm labor would identify more highly with the farming role and report higher levels of farming satisfaction. For full-time farmers, greater amounts of time spent in farm labor were associated with lower levels of satisfaction. For part-time farmers, greater amounts of time spent in farm labor were associated with a higher level of satisfaction. Therefore, it seems that time spent in farm labor operates differently for full-time farmers than for part-time farmers. For full-time farmers, greater amounts of farm labor may be viewed as merely additional work. For part-time farmers, greater amounts of farm labor may be viewed as an opportunity to engage in a chosen activity. Results of the discriminant analysis also demonstrated a positive relationship between farm work and the satisfac-

tion of part-time farm women.

Results of the analysis revealed support for a positive association between satisfaction and equalitarian decision-making among part-time farmers but not among full-time farmers. Part-time farmers appear to welcome their wives' involvement in farm decisions and rely on their assistance.

Farm debt and percent of cropland acres owned by the operator were seen as reflecting autonomy of the farm couple. The hypothesized relationship between farm debt and satisfaction was not supported at the bivariate level. It did emerge as a significant variable in the discriminant analysis for both husbands and wives working off the farm more than half time. However, the relationship was opposite of that predicted. Greater amounts of debt were associated with higher levels of satisfaction. Farm debt may be more an indication of commitment to farming than of autonomy. It may also reflect success in farming. It was found to be positively correlated with gross farm sales and in 1977 when these data were collected, high levels of debt tended to characterize "efficient" operators.

Considerable support was found for the hypothesized positive relationship between the tenure measure and satisfaction. Only the sample of part-time farmers did not demonstrate this relationship. Ownership of land, in addition

to reflecting autonomy, is also a basic American value. Furthermore, in 1977, land values were high, and ownership of land would have been an indication of farming success.

Interestingly, gross farm sales did not emerge as significantly related to satisfaction. Only in the sample of full-time farm women did this variable appear to be significantly related to satisfaction and only then in the multivariate analysis.

Years the farm had been operated by the couple was included as a characteristic of the farm organization. A positive relationship between length of time operated and satisfaction was found for full and part-time farm women as well as for full-time farmers. The longer the time a couple has been operating a farm, the more likely it may be to reflect their values and investments of time, energy, and commitment.

Conclusions

This study has demonstrated that satisfaction with farming is closely related to satisfaction with the family and with the spouse's satisfaction with farming. While it may be suggested that these variables measured simply dimensions of the same phenomenon, i.e., life satisfaction, results of correlation and reliability analyses demonstrated that different, although related qualities are being measured.

The results also suggest that variables predictive of satisfaction with farming differ somewhat depending upon whether the individual is involved in farming on a full or part-time basis. Further research is needed which will investigate these relationships across varying levels of off-farm work and across patterns of family labor allocations.

This study was hampered to a certain extent by a lack of data specifically indicating variation in such phenomena as perceived levels of autonomy. Feelings of autonomy have been shown to influence job satisfaction. For the farm couple, relationships with older or younger generations or siblings also active in the operation may be a significant factor. Many farm families live and work closely with members of the extended family.

Future research must also recognize the potential of farm women to contribute to the economic activities of the farm and to view farming as their occupation. Satisfaction with farming as the woman's occupation rather than as her husband's occupation needs to be investigated. Recognition of the close interdependence of farm and family should assist in this effort as the farm woman is seen as an important contributor to the farming system.

SECTION III. WOMEN'S PARTICIPATION IN FARM WORK

INTRODUCTION

Attention is increasingly being focused on the part women play in agricultural production. Studies have begun to document the diverse contributions American farm women make to their family's farming operations. Research has identified managerial contributions in the form of participation in farm decision-making (Jones and Rosenfeld, 1981; Sawyer, 1973; Wilkening and Bharadwaj, 1968), labor inputs (Boulding, 1980; Coughenour and Swanson, 1983; Jones and Rosenfeld, 1981; Pearson, 1979), and supplementary income secured from nonfarm sources (Bokemeier et al., 1982; Deseran et al., 1984; Huffman, 1976; Maret and Copp, 1982). These studies have reinforced the oft-hypothesized notion that the contributions women make to agricultural production have been seriously underestimated, if not completely ignored.

Understanding the woman's contribution to a family farming operation and predicting the form it will take rest, in part, on an understanding of the changes occurring in the structure of agriculture as well as changes in the structural factors influencing the opportunity for off-farm work and the returns from that work. In addition, the family context in which the woman's contribution takes place and her individual background characteristics

are factors which must also be considered in assessing the woman's contribution to the family farming operation.

The Structure of Agriculture

Changes in production agriculture are symbolized by a structure that is becoming increasingly dualistic. While a relatively small number of large scale farms are taking over the bulk of production and sales, the vast majority of American farms remain small-scale producers. Allen (1985) reports that $4\frac{1}{2}$ percent of the nation's farms currently produce almost half of American agricultural output and account for approximately two-thirds of total farm income. Alternately, nearly three-fourths of the nation's farms gross less than \$40,000 annually, with half grossing less than \$10,000. These small scale farms as a group produce less than one-fifth of the nation's farm products and earn a mere $1\frac{1}{2}$ percent of all farm income. Factors that have been implicated in this structural transformation include government tax policies and commodity programs, inflationary land prices, and advances in biochemical and mechanical technologies which have resulted in more capital intensive practices and rising economies of scale (Buttel and Gillespie, 1984).

Families involved in small-scale farming operations have found themselves unable to compete in the more capital

intensive agricultural system and have increasingly come to rely on supplemental nonfarm income. Today, part-time farming is recognized as a permanent and pervasive feature of modern farm life (Coughenour and Gabbard, 1977; Fuller and Mage, 1976). Some individuals work off the farm in order to supplement farm and family income (Cavazzani, 1977; Hedley, 1976; Heffernan et al., 1981). Others, with their primary occupational interests elsewhere, engage in farming in order to secure a secondary source of income or for the enjoyment of the nonfinancial rewards available from farming (Coughenour and Gabbard, 1977; Coughenour and Wimberly, 1982).

The importance of nonfarm income to farm families is attested to by the fact that in 1979 slightly over 63 percent of all income for families with less than \$40,000 in gross farm sales was from off-farm sources. For those families with gross farm sales of between \$40,000 and \$99,999, just over 30 percent of their income was from nonfarm sources (Banks and Kalbacher, 1981). Nonfarm income may be derived from a variety of sources. Employment in off-farm jobs is one important source. On some farms only the husband or wife is employed off the farm. On others, both work off the farm. As early as 1975, 55 percent of all farm operations relied on some off-farm work (Banks and Kalbacher, 1981).

Opportunity for Off-Farm Work

In the face of this reliance on nonfarm sources of income, the opportunity for off-farm employment becomes an important consideration for how a family will make decisions to allocate labor. The nature of the nonfarm opportunities available and the potential for return from off-farm work are important in determining if the husband, wife, or both will seek off-farm employment (Coughenour and Swanson, 1983).

Opportunities for nonfarm employment have increased in rural areas. During the 1970s, industries increasingly moved out of the inner city and into rural areas. These moves enhanced opportunities, in particular, for service-oriented jobs (Falk, 1982), nondurable manufacturing jobs (Summers and Lang, 1982), and craft and operative employment (Brown and O'Leary, 1979). Some of these industries have recently been hurt by the farm crisis. Others have subsequently moved elsewhere, in the quest for inexpensive labor. However, overall rural nonfarm opportunities have increased, especially relative to opportunities in farming.

The Family Context

An understanding of the family context within which farming occurs is also important for an understanding of the role women play in production agriculture. Kanter

(1977) argues that, in general, the importance of the work-family interface has been largely ignored in social scientific research. In farm families where work roles are often indistinct from family roles, where the workplace coincides with living quarters, and where the same individuals that make up the family comprise the work unit, the work-family interface cannot be ignored. Flora (1981) argues that it is crucial that household factors as well as political, economic, and technological changes be taken into account when analyzing the work that farm women do. Further, Buttel and Gillespie (1984) point to the flexibility in the labor allocation of the farming household as an important feature for the survival of the family farm.

One method of analyzing the work patterns of farm women is to consider her labor inputs in terms of time allotted to various labor activities within the family context. This can then be compared to the time allotted to work roles by other family members, assessing the interrelationships among these time allotments.

The Present Study

The objectives of the present study are to: 1) examine the interrelationships between the time that farm women spend in farm-related and off-farm work in the overall

context of the farm family unit, 2) identify the correlates of labor patterns, and 3) attempt to account for variation in the wife's farm labor. Data gathered in 1977 from interviews conducted with Iowa farm husbands and wives are used.

REVIEW OF LITERATURE

The presentation of relevant literature is organized according to the various contributions women make to the farming operation as identified by previous research. The literature review begins with a brief overview of studies focusing on decision-making and division of labor. Next, the discussion moves to a consideration of relative economic contributions and labor inputs, followed by an examination of the limitations and benefits of studying labor inputs in terms of time allocations. Finally, the research hypotheses examined in the present study are presented.

Participation in Decision-Making

Women may contribute to the family farming operation through participation in farm related decisions. In general, studies have shown that farm women are involved in farm decisions, although few take major or primary responsibility. Jones and Rosenfeld (1981) found that approximately one-half of the farm women in their nationwide sample reported sharing in day-to-day farming decisions. In addition, Boulding (1980) reports that most of the farm women she studied were involved in farm decisions at least to the extent that decisions were normally discussed with them even though the husband had the final say.

Wilkening (1981b) compared decision-making data collected in 1979 with data collected in 1962. Surprisingly, decisions about borrowing money and changing the size of the farm business were somewhat less likely to be shared in 1979 than in 1962. However, women were more likely to be involved in day-to-day decisions such as those related to crop varieties and the purchase of fertilizer.

Several farm decision-making studies have attempted to identify the correlates of woman's participation. For example, Jones and Rosenfeld (1981) report that college educated women are more likely to be involved in farm decisions than wives who have not achieved a college education. Other studies, however, report no such relationship (Sawer, 1973; Wilkening, 1981b).

Age has also been examined as a potential correlate, but has not been found to be significant (Jones and Rosenfeld, 1981; Sawer, 1973). Characteristics reflecting the wife's differential labor allocation seem to be more important in explaining participation in decision-making. Women with young children have been found to be less likely to be involved in farm decisions (Jones and Rosenfeld, 1981) as have women with larger numbers of children (Sawer, 1973). Further, the more the wife works on the farm, the more likely she is to be involved in farm decisions (Sawer, 1973; Wilkening and Bharadwaj, 1968). Being employed off

the farm has been found to be negatively related and having a husband who is employed off the farm has been found to be positively related to participation in farm decisions (Jones and Rosenfeld, 1981).

Involvement in Farm Tasks

In addition to participating in farm decision-making, farm women participate in a variety of farm tasks. Jones and Rosenfeld (1981) asked respondents to indicate which tasks of a list of twelve common farm tasks were relevant to their operations and which of these they performed. These tasks included bookkeeping, animal care, various types of field work, marketing products, and supervising labor of hired help and children. On the average, women reported being involved in over half of the tasks relevant to their specific operation. The vast majority of the women studied were involved in bookkeeping, running errands, and producing food for family and worker consumption. Over one-third reported involvement in field work and harvesting, while two-thirds of the women involved in operations producing livestock contributed to animal care.

Boulding (1980) emphasized the importance of the coordinating role women play on farms. Of the 27 women interviewed, 20 reported doing all of the bookkeeping for their operation. Women consult and advise with husbands,

relatives and hired help, transport equipment, supplies, meals, and messages, mediate conflicts, read farm journals, and make contact with the Extension Service.

Women also serve as a source of available labor during times of peak demand. Boulding (1980) reports that 25 of the 27 women she interviewed could drive a tractor and operate heavy equipment if needed.

Economic Contributions

A third area in which farm women's contributions have been noted involve economic contributions made to the farm family unit either through participation in on-farm work or through off-farm employment. Huffman (1976) points out that farm family labor is most likely to be allocated in ways to maximize farm household income.

Off-farm work

The wife's participation in off-farm work is generally viewed as evidence of an economic contribution to the farm family unit. However, women tend to be employed in secondary and peripheral industries, characterized by low job security, low mobility, and lack of unionization (Beck et al., 1978; Bibb and Form, 1977; Gordon, 1972; Morrissey, 1982).

Taking into consideration the potential for return

from off-farm employment, the value of the woman's time in off-farm work versus on-farm work becomes an important question. Bokemeier et al. (1983) suggest that as the cost squeeze on the farm becomes more severe, it may become more advantageous for men rather than women to work off the farm.

A number of studies have centered on determining correlates of women's off-farm work. Women from larger farms, in terms of gross farm sales, appear to be less likely to work off the farm than women from smaller scale farms (Buttel and Gillespie, 1984; Deseran et al., 1984). However, Bokemeier et al. (1983) report that women in the middle categories of gross farm sales may be somewhat more likely to enter the labor market than women from the smallest scale farms. They suggest that on larger scale farms, women's economic contributions may not be needed, while on smaller scale farms, it may not be feasible to replace her on-farm contributions.

Contrary to expectations, a higher percentage of employed farm women have children under 18 years of age than those who are not employed (Bokemeier et al., 1983). Age appears to be negatively correlated with off-farm employment (Bokemeier et al., 1983; Deseran et al., 1984).

As might be expected, education has consistently been found to be positively related to off-farm employment

(Bokemeier et al., 1983; Buttel and Gillespie, 1984; Deseran et al., 1984). Education may significantly influence the potential for return from labor.

On-farm work

Farm women also make an economic contribution through their on-farm work. According to Maret and Copp (1982), farm women, as a group, make a considerable contribution to the nation's agricultural production. Furthermore, census classification of the wife as "unpaid farm labor" is associated with significantly higher sales for a farming operation than any other classification of employment, particularly clerical or sales.

Coughenour and Swanson (1983) have considered the effect on farm scale of employment off the farm. Participation of family members in off-farm jobs tends to result in a diminished amount of available labor for farm work. However, additional income may be gained which could be used for the farm operation. The researchers concluded that when the woman works off the farm but her husband does not, some of her labor may be lost but the income she earns tends to result in larger farm acreages, perhaps due to greater use of capital intensive practices. Interestingly, gross farm sales are lower for this group of farms than for farms where neither is employed off the farm,

supporting Maret and Copp's (1982) conclusion that women make significant on-farm economic contributions.

Time Contributions

In addition to investigating decision-making, involvement in farm tasks, and economic contributions, studies have also been concerned with how the farm woman's time is allotted to specific activities (Boulding, 1980; Buttel and Gillespie, 1984; Huffman, 1976). In particular, interest has centered around time spent in farm work, housework, childcare, and off-farm work.

For example, Boulding (1980) presents a time budget model for the "typical" week of the "typical" farm wife. Based on her interviews of women involved with farming and on a similar model presented in the Farm Wife News, the model suggests that farm women spend approximately 40 hours per week in farm related work. Included are 10 hours spent on field work and barn chores, eight hours on bookkeeping, and seven hours per week on errands and coordinating activities.

Huffman (1976) emphasizes the considerable variations in time allotments by season of the year. He found that for wives reporting farm work, they spent an annual average of 19.9 hours per week at farm work. However, this time allotment varied from 17 hours per week in January and

March to roughly 22 hours in July. The difference in hours between Huffman's estimate of 19.9 hours per week and Boulding's (1980) estimate of 41 hours per week may perhaps best be explained by Boulding's definition of farmwork. She stresses that time spent in doing errands and feeding work crews constitutes farmwork as well as actual field work and barn chores.

Time Allotment Studies

In order to understand the allocation of women's labor in terms of time, it is important to consider the context in which this allocation takes place. It is also important to recognize the limitations of time allotment analysis, while appreciating the importance of analyzing time spent in various activities.

Context

As previously noted, the woman's contribution to the farming operation must be understood within the context of the farm family as a unit. Kanter's (1977) discussion of the work-family interface stresses the importance of the relationship between work and family. For the farm family, this interface is potentially even more important than for other families.

Farming tends to be characterized by a close connection

between work and family. The worker's effectiveness on the job may depend to some extent on total family effort. In turn, family life tends to be dominated by the occupation. Home and workplace coincide. This close connection between work and family makes it vitally important that time spent in labor be understood within the context of the family unit.

Kanter (1977) also points to the significance of rewards and resources for understanding the work-family interface. Jobs serve as sources of money, prestige, and other benefits for family members. Relative resources and rewards available from the farming operation and/or off-farm work help to determine how family members' time will be spent. In turn, family members' time allotments may influence their position within the family. A woman, spending time in off-farm employment, bringing financial inputs to the farm family unit, may find her power position within the family unit enhanced.

Importance of time

The importance of considering time spent in work and family roles is also suggested by Kanter (1977). The amount of time demanded by the occupation may determine what is "left over" for family life. Small-scale farms tend to be more labor intensive than larger scale farms

(Buttel and Gillespie, 1984), requiring considerable inputs of time on the part of family members. With increased reliance on off-farm employment, time demands may also increase. In addition, the variations throughout the year in farm labor requirements may impact on the family.

Marks (1977) also notes the potential importance of time. He points out that three resources are generally considered when analyzing multiple roles: time, energy, and commitment. Of these, time is perhaps the most inherently limiting. Energy and commitment may be stretched, but time is finite. Role overload (i.e., too much to do in too little time) may be more difficult to overcome than conflicts involving incompatibility in role expectations (Sieber, 1974).

Marks (1977) suggests that a point at which time becomes a significant limitation is when production is removed from the place of residence. When this occurs, roles are more likely to become separated and played out at different times and places. Farm women who work off the farm may not be as capable of combining work and family roles as farm women working only on the farm.

Limitations of time studies

Those characteristics of the farming occupation which make time allocations particularly important may also

result in difficulties when studying time allocations. Since farming is an occupation in which there is a close connection between work and the family, it may be difficult to segregate time allocated to farm labor from time allocated to the family. Thus, the work role is not easily separated from the family role. Farm women tend to do a number of things at once. Productive and reproductive roles may merge (Flora, 1981) as women, for example, may go to town for a machinery part but also shop for groceries and care for children at the same time.

Time analyses based on survey data may also suffer from errors in reporting. Recall may be inaccurate. If spouses report time spent by their husbands or wives in various activities, they may underestimate or overestimate time contributions. It seems, however, that the potential importance of analyzing time allotments outweighs the limitations inherent in the method.

Work-Farm-Family Role System

A useful approach to conceptualizing the farm woman's contributions of labor time within the family context may be to view her time spent in farm work as occurring within a system of defined roles. Pleck (1977) has identified a system of roles occurring within the nuclear family. Termed the "work-family role system," it is composed of the hus-

band's work and family roles and the wife's work and family roles. Viewing these roles as comprising a system forces the researcher to analyze the interdependence among the roles and underscores the interconnectedness between work and family roles. The work-family role system is illustrated in Figure 1.

Boulding (1980) notes that while the work-family role system is a useful concept, it may be inadequate for the typical American farm family. In contemporary farm families, not only may husbands and wives each have family and farm roles, they may also engage in work roles which are not part of the farming operation. Also, children often contribute significantly to the work on the farm.

It is important, then, when analyzing the work roles of farm women to expand the work-family role system to include the farm roles of both the husband and wife, the family roles of both spouses, and the off-farm work roles of both. The contribution that children make to work on the farm also needs to be recognized and added to the role system. It is also conceivable that children contribute significantly to housework and make economic contributions to the farm operation through off-farm work. Therefore, for a complete picture, these roles also need to be added. The "work-farm-family role system" is illustrated in Figure 2.

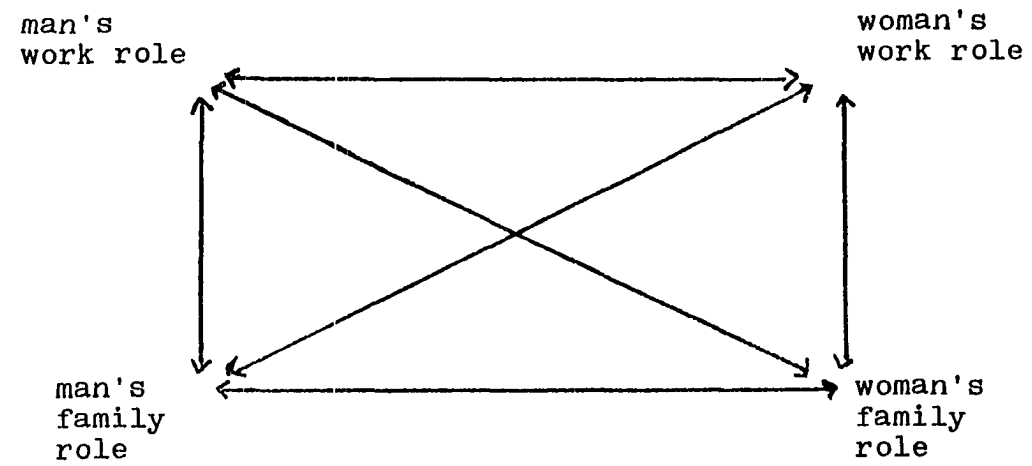


Figure 1. The work-family role system

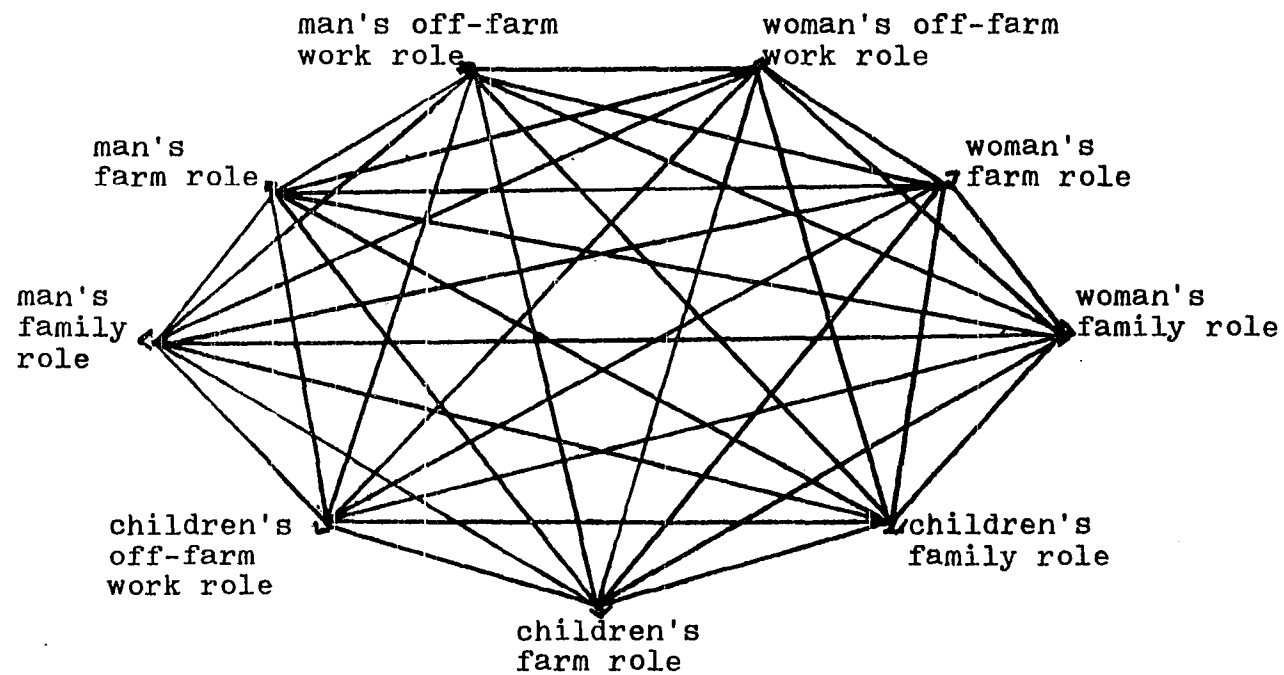


Figure 2. The work-farm-family role system

Development of Hypotheses

Interrelationships within the work-farm-family role system must be considered when analyzing the farm woman's labor allocation. Recognition of the potential importance of the interrelationships within this system leads to a consideration of these complementary roles as sources of influence on the woman's farm labor. In addition to this role system perspective, an interesting study by Buttel and Gillespie (1984) suggests hypotheses to be investigated. It is anticipated that reconsideration of several of the hypotheses tested by Buttel and Gillespie will allow for the development of a broader base of support for the findings reported by them. Including these hypotheses in the present analysis will allow for testing the ideas across a somewhat different sample since the present analysis focuses on a Midwest sample of relatively larger farms.

Buttel and Gillespie studied time spent by New York State farm couples in on-farm and off-farm labor. The central purpose of the study was to assess relationships among men's and women's on- and off-farm labor. In recognition of the changing structure of agriculture, particularly the differences between large and small-scale farms, the researchers tested hypotheses separately for operations annually grossing \$40,000 or less and operations annually

earning over \$40,000 in gross farm sales as well as for the combined groups. The results of the Buttel and Gillespie analysis demonstrate that size differences do need to be taken into account. Therefore, the distinction between large and small-scale farms is also used in the present analysis.

First, recognition of the limiting quality of time must be taken into account. Women who spend time in other pursuits will have less time to spend in farm labor. Buttel and Gillespie (1984) confirmed that a negative relationship exists between the time a farm woman spends in off-farm labor and the time she spends in farm labor. Therefore, it is hypothesized:

H1 Women who work off the farm will spend less time in farm labor than women who do not work off the farm.

Potential returns from labor will be likely to influence labor allocation. Women with higher levels of education may experience greater returns from nonfarm labor than women with lower levels of education. Education has been found to be positively related to off-farm work (Bokemeier et al., 1983; Buttel and Gillespie, 1984; Deseran et al., 1984). Therefore, education may lead to higher levels of participation in off-farm labor, thereby decreasing farm labor. It is hypothesized:

- H2 No relationship between the woman's education and the time she spends in farm labor will be found after controlling for the effects of other variables.

It has generally been assumed that life cycle stages affect participation in labor. Women busy with the care of small children may not have as much available time to spend in farm work. However, as children grow they become an additional source of farm labor (Boulding, 1980). Since Buttel and Gillespie (1984) suggest that hired labor substitutes more for women's labor on the farm than for men's, children's labor may also substitute for women's labor. Therefore, it may be of more interest to assess the effect of the woman's actual participation in household labor as well as the children's actual participation in farm labor rather than life cycle stage. It is hypothesized:

- H3 The more time the woman spends in household labor, the less time she will spend in farm labor.
- H4 Women whose children contribute farm labor to the farming operation will spend less time in farm labor than women who do not have children contributing labor.

The woman's age may appear to be related to labor allocation in a number of ways. First, younger women may be more accepting of employment outside the home and more likely to

expect to be involved. Second, younger women may be able to achieve a greater return on their off-farm labor. Age has been found to be negatively correlated with off-farm work in spite of expectations that younger women will have young children to care for and be less likely to seek off-farm employment (Bokemeier et al., 1983; Deseran et al., 1984). Therefore, it may be anticipated that younger women will spend less time in farm labor due to their involvement in off-farm labor. However, when the effect of off-farm labor is taken into account, age may have the opposite effect. Older couples may be more established and better able to afford hired labor. They may also be more likely to have children involved in farm labor. Therefore, it is hypothesized:

- H5 No relationship will be found between the woman's age and the time she spends in farm labor after controlling for the effects of other variables.

It may be expected that the more time the husband spends in off-farm work, the more the wife's labor will be needed on the farm. However, Buttel and Gillespie (1984) found a negative although nonsignificant relationship between husband's off-farm labor and wife's farm labor. This along with a finding that women's farm labor inputs correlated positively with men's farm labor inputs led Buttel and Gillespie to conclude that couples specialize

in either farm labor or off-farm labor. Women spend more time in farm work on operations requiring large amounts of labor. It is hypothesized:

H6 Women whose husbands' work off the farm will spend less time in farm labor than women whose husbands do not work off the farm.

H7 The more time the husband spends in farm labor, the more time the wife will spend in farm labor.

Size of the farming operation may also have an effect on the woman's participation in farm work. Buttel and Gillespie (1984) found that farm size, in terms of sales, was positively correlated with women's farm labor for the subsample of farms grossing \$40,000 per year or less. Sales did not appear to be related to women's farm labor among the larger farms or total sample. Other studies suggest that women are less involved in large-scale operations than they are in smaller scale operations (Poole, 1981). However, Coughenour and Swanson (1983) report that the woman's labor tends to increase farm sales. This may be an area, then, where significant differences between large-scale and small-scale farms exist. It is hypothesized:

H8 The higher the gross farm sales, the more time the wife will spend in farm labor on small farms.

H9 The higher the gross farm sales, the less time

the wife will spend in farm labor on large farms.

Finally the wife's participation in farm work may be affected by socialization. It is anticipated that women who were raised on farms will be more likely to be directly involved in the farming operation. They will be likely to have been involved in farm chores and expected to contribute labor throughout their lives. It is hypothesized:

H10 Women who report a farm as their childhood place of residence will spend more time in farm labor than those who did not grow up on a farm.

These relationships will be tested first at the bivariate level. Second, a multivariate test will be conducted. Relationships are expected to be in the same direction as at the bivariate level.

METHODS

Data used in this analysis were collected in 1977 from a sample of 933 farm operators and their spouses. The sample was an area probability sample representing all Iowa counties and all Iowa farms having gross agricultural sales of at least \$2500 for the previous year. For the present analysis, married couples in which neither partner was over the age of 65 were selected. This allows for an assessment of labor allocations within farm couples and eliminates those likely to be barred from off-farm work due to age. Limiting the sample in this way resulted in a sample size for the present analysis of 779 couples.

Characteristics of the Sample

Couples in the sample were from farm operations averaging close to 300 cropland acres and slightly over \$90,000 in yearly gross sales. Husbands ranged in age from 21 to 65 with a mean of 46. Wives ranged in age from 18 to 65 with a mean of 43. Over 70 percent of the husbands and over 80 percent of the wives had graduated from high school. Approximately six percent of each had finished college. Three-fourths of the couples had children present in the home, ranging from one to 12 children. Of those

with children present, the average number of children in the home was 2.6. Most of the husbands and wives in the sample were not involved in off-farm work. Only 25.7 percent of the husbands reported off-farm work. A slightly higher percentage of the wives, 29.4 percent, reported off-farm work.

Hypotheses will be tested controlling for farm size. Two subsamples were created by dividing the sample based on gross farm sales. Farms with \$40,000 or less in gross annual sales are considered small farms. Farms with more than \$40,000 in gross annual sales are considered large farms (Buttel and Gillespie, 1984; Carlin and Crecink, 1979).

Couples from small farms tended to be slightly older than couples from large farms. Husbands in the small farm subsample averaged 48.6 years old compared to 45 in the large farm subsample. Wives in the small farm subsample averaged 45.5 years old compared to 43 in the large farm subsample.

The large farm subsample was better educated than the small farm counterpart. Seventy-four percent of the husbands and 88 percent of the wives in the large farm subsample had graduated from high school. Six percent of the husbands and eight percent of the wives were college graduates. In the small farm subsample, 64 percent

of the husbands and 80 percent of the wives had graduated from high school. Only two percent of the wives had graduated from college. However, nearly seven percent of the husbands were college graduates.

Couples in the small farm subsample were somewhat less likely to have children in the home than were couples from the larger farms, 70 percent and 75 percent, respectively. Of those with children in the home, family size differences were negligible.

Small farms averaged 137 cropland acres and \$20,625 in gross sales for the previous year. Large farms averaged 342 cropland acres and \$120,097 in gross sales for the previous year.

Off-farm work was considerably more common in the small farm subsample. Almost 50 percent of the men from smaller farms reported off-farm work compared to only 17 percent of the men from the larger farms. Approximately 36 percent of the women in the small farm subsample reported off-farm work compared to only 28 percent in the large farm subsample.

Variables Measured

Descriptive statistics for the variables used in the present analysis are presented in Table 1. Means and standard deviations are reported for variables measured on a continuous scale. Percentages of responses are re-

Table 1. Distribution of independent variables
across farm samples

variable	Total farms		
	mean	s. d.	percent reporting
women's off-farm labor			29.4
education	5.42	1.70	
women's household labor	2,579	1,090	
			38.3
age	43.27	11.46	
men's off-farm labor			25.7
men's farm labor	2,754	1,281	
gross farm sales	92,116	82,351	
childhood farm residence			70.9

Small farms			Large farms		
mean	s. d.	percent reporting	mean	s. d.	percent reporting
		36.1			28.1
4.99	1.28		5.57	1.79	
2,574	1,077		2,588	1,077	
		30.0			41.8
45.52	11.60		42.73	11.09	
		46.6			17.4
2,048	1,363		3,003	1,087	
20,625	10,747		120,097	81,285	
		71.2			70.7

ported for variables measured at the nominal level.

Several of the variables used in this analysis reflect the time allotted to various labor activities by the husband and wife. Husbands and wives were each asked to estimate the number of hours they personally spent in farm labor, off-farm labor, and household labor. Hours were reported for each season of the year. Labor estimates used in the analysis represent total hours spent per year in each of the various labor activities.

Woman's farm labor is the dependent variable in this analysis. Men's farm labor serves as an independent variable. Children's farm labor was reported by the parents and is a dichotomous variable indicating whether or not children contribute farm labor.

Women's off-farm labor and men's off-farm labor are also dichotomous independent variables. Due to the high percentage of respondents reporting no off-farm labor and the accompanying analytic difficulties of dealing with a highly skewed distribution, estimates of total hours were recoded into two categories. The variables distinguish between those who report off-farm work and those who do not. Woman's household labor represents the total estimated hours per year spent in household labor.

Gross farm sales is computed from information given on dollar estimates of crop inventory, swine, sheep,

dairy cattle milk, and beef cattle sold.

Age and education are self reports of the woman's age and years of schooling attained. Education is coded as suggested by Carter (1971). Carter points out that the effect of education on other aspects of an individual's life is not linear when education is coded in years. The difference between, for example, 11 years of schooling and 12 may be greater than the difference between 10 and 11 years. Based on an average change in income for each year of education, Carter suggests the following coding scheme: 0-7=1, 8= , 9-11=4, 12=5, 13-15=7, 16=10, 17+=13.

Childhood place of residence is the woman's self-report of where she grew up. The variable is dichotomous, distinguishing between those whose childhood place of residence was a farm and those whose childhood place of residence was in a nonfarm setting.

Testing Relationships

Relationships between the dependent variable and independent variables were assessed first at the bivariate level by examining zero order correlations. Second, a multivariate analysis was conducted using multiple linear regression. In order to assess the independent effect of the woman's off-farm labor involvement and the additional independent effects of other variables, woman's off-farm

labor was entered first into the equation. Other variables were entered in a forward fashion with a selection criterion of probability of F-to-enter set at .05.

Multiple linear regression is a multivariate technique aimed at describing the linear relationship between several independent variables and a continuous dependent variable. It results in the development of an equation describing the relative contributions of the independent variables to an explanation of the variance in the dependent variable. For all combinations of values of independent variables, the dependent variables must be normally distributed with a constant variance. Variables must be measured on an interval scale (Norušis, 1985).

RESULTS

First, it is of interest to assess the extent to which women contribute labor to the farming operation. Women from farms with \$40,000 or less in gross farm sales were, on the average, more involved in farm work than were women from the larger farms. Mean hours of labor involvement were 488 for the small farm subsample. For the large farm subsample, mean hours of farm labor were 467.

Zero order correlations between the dependent variable and independent variables are presented in Table 2. Results of the regression analysis are presented in Table 3.

It was hypothesized that women who work off the farm will spend less time in farm labor than women who do not work off the farm (H1). Support was found for this hypothesis in the total sample and in the large farm subsample. Working off the farm was found to be negatively correlated with hours of farm labor ($p < .05$). In order to assess the effect of this variable and to determine the extent to which other variables affect farm labor independently of involvement in off-farm work, this variable was entered first into the regression analysis. For the total sample and large farm subsample, a significant amount of variance in the dependent variable was explained by off-farm labor ($R^2 = .02$ and $.03$, respectively). Failure to support this hypothesis in the small farm subsample is interesting in light of the

Table 2. Pearson correlation of women's hours of farm labor with independent variables

variable	women's hours of farm work		
	total farms	small farms	large farms
women's off-farm labor	-0.099*	-0.021	-0.158*
education	-0.093*	-0.117*	-0.065
women's household labor	-0.194*	-0.311*	-0.154*
children's farm labor	0.108*	0.108	0.028
age	-0.030	-0.069	-0.037
men's off-farm labor	0.010	0.093	-0.048
men's farm labor	0.199*	0.204*	0.296*
gross farm sales	-0.060	0.054	-0.077*
childhood residence	0.070	0.106	0.057

* p significant at .05 with a one-tailed test of significance.

Table 3. Regression analysis of women's hours of farm labor
with selected independent variables by farm size

variable	step			R ²			beta		
	total/small/large			total/small/large			total/small/large		
women's off-farm labor	1	1	1	.02	.00*	.03	-.12	-.04	-.16
women's household labor	2	2	3	.08	.12	.17	-.26	-.36	-.25
men's farm labor	3	3	2	.15	.18	.11	.26	.24	.29
gross farm sales (log)	4		5	.17		.19	-.16		-.09
age	5	4		.18	.21		-.10	-.20	
children's farm work	6		4	.19		.18	.10		.09
childhood residence	7	5	6	.20	.23	.20	.08	.14	-.09

*R² not significant.

findings that women in this group are more likely to work off the farm than women in the large farm subsample and on the average contribute more hours to farm work. Women from small farms appear to contribute labor based on need for that labor regardless of their involvement in off-farm work.

For the total sample and small farm subsample, education was found to be negatively related to farm work ($p < .05$). Results of the regression analysis suggest that this influence flows through off-farm work participation. Education failed to contribute significantly to the explanation of variance in the dependent variable when the effect of off-farm labor was already in the equation, demonstrating support for H2.

Support was found for H3 in both subsamples and the total sample. The more time the woman spends in household labor, the less time she spends in farm labor ($p < .05$). Results of the multivariate analysis suggest that it is an important variable in explaining the woman's level of involvement in farm work. Household labor was selected by the regression procedure at step 2 for the farm women comprising the total sample (R^2 change=.06). For the small farm subsample, the woman's participation in household labor contributed considerably to the explanation of variance in the dependent variable (at step 2, R^2 change=.12). Among

the women in the large farm subsample, household labor was selected at step 3, after the woman's off-farm labor and the man's farm labor had been entered into the equation (R^2 change=.06).

Whether or not children contribute farm labor to the family farming operation was hypothesized to influence the woman's involvement in farm work (H4). A significant relationship was found in the total sample, but the relationship did not appear among either of the subsamples. This variable was selected by the regression procedure as explaining a significant amount of variation in the dependent variable for the total sample and large farm subsample. However, the relationship was positive rather than negative as hypothesized.

H5 suggests that no relationship will be found between the woman's age and participation in farm labor when controlling for the effects of other variables. However, while no relationship was found at the bivariate level, results of the multivariate analysis revealed that the woman's age did contribute to the explanation of variance in the dependent variable among the total and small farm samples (R^2 change at step 5=.01 for the total sample and at step 4, R^2 change=.03 for the small farm subsample).

H6 hypothesized a negative relationship between men's off-farm work and women's farm labor. No support was found

for this hypothesis. However, support was found for H7 in the total sample as well as in both subsamples ($p < .05$). Husbands' and wives' farm labor are positively correlated. Results of the multiple regression analysis suggest that the variable explains a significant amount of variance in the dependent variable (R^2 change = .07 at step 3, .06 at step 3, and .08 at step 2 for the total, small farm, and large farm samples, respectively). This reinforces Buttel and Gillespie's (1984) suggestion that couples tend to specialize in either farm labor or off-farm labor.

H8 predicted that for the smaller farms, gross farm sales would be positively related to the woman's farm labor. Although the relationship was in the predicted direction, it was not statistically significant.

H9 predicted an opposite relationship between gross farm sales and woman's farm labor for the large farms. Support was found for this hypothesis at both the bivariate ($p < .05$) and multivariate levels (R^2 change = .01 at step 5).

Minimal support was demonstrated for H10. No significant relationship between the woman's childhood place of residence and her farm labor input as found at the bivariate level. However, the multiple regression analysis demonstrated a significant, although relatively minor, effect (R^2 change = .01 at step 7, .02 at step 5, and .01 at step 6 for the total, small, and large farm samples, respectively).

DISCUSSION

The purpose of this study was to investigate farm women's participation in farm labor. Using the work-farm-family role system perspective a number of potentially important correlates were identified. Results of an earlier study by Buttel and Gillespie (1984) were used to predict direction of relationships. It was anticipated that this analysis could broaden the base of support for hypotheses used in the Buttel and Gillespie analysis by examining relationships among variables in a sample representing a different segment of the farm population. Buttel and Gillespie focused on New York State farm couples from relatively small farming operations. The present analysis focuses on a midwest population with the larger proportion of farms in the sample representing farms annually grossing over \$40,000 in agricultural sales.

Several of the hypotheses supported by the Buttel and Gillespie analysis also received support in the present study. Particularly important was the reinforcement of Buttel and Gillespie's suggestion that couples tend to specialize in either farm labor or off-farm labor. Men's and women's farm labor were found to be positively correlated. Support was not found for the idea that women increase their farm labor contribution when men take a

job off the farm. However, working off the farm was negatively related to farm work among the large farm subsample but not among the small farm subsample. On small farms women may have to "stretch" their days in order to accomplish both off-farm and on-farm work.

Buttel and Gillespie also predicted that hired labor would substitute for women's farm labor. They found support for this hypothesis among the larger scale farms. In the present analysis it was of interest to determine the extent to which children's labor substitutes for women's labor. However, no support was found for the idea that children's labor and women's labor are negatively related. In fact, among the total sample, women whose children worked on the farm were more likely to put in longer hours of farm labor than women whose children did not work on the farm.

It has been suggested that family life cycle stage would have an effect on the woman's level of participation in farmwork. When children are small, she is involved in childcare and less able to participate in farmwork. As children grow, they are able to substitute for her farm labor. As noted no evidence was found in the present analysis that children's labor substitutes for women's labor. However, support was demonstrated for the idea that women who spend large amounts of time in housework, have less to spend in farm work. Further research is

needed to assess the extent to which household labor, child-care, and farm work are accomplished simultaneously.

The present analysis also reinforced the notion that there are significant differences in labor allocation between large and small scale farms. In particular, and consistent with previous research women tend to be less involved on larger farms among commercial scale farms, but this is not the case among farms having gross farm sales of less than \$40,000. Furthermore, the analysis suggests that labor requirements are higher for women at the smaller end of the farm size scale. Women on small size farms compared to large size farms, on the average, spend more time in farm labor, are more likely to work off the farm, and do not necessarily decrease their input into farm labor when working off the farm.

Further research is needed to investigate these relationships in light of reasons for off-farm work. In addition, measuring actual hours of off-farm work and hours of work by children would provide more information than simply knowing whether or not this type of labor input exists for a particular farm.

Overall, the analysis has reinforced the idea that farm women make important contributions to the farm family in terms of their labor inputs. These labor inputs seem to be determined by the needs of the farm family and farming operation.

SUMMARY AND CONCLUSIONS

Important changes affecting the character and quality of contemporary farm life are occurring in rural America and within the structure of agriculture. Among the most significant of these changes is a blurring of the rural/urban distinction. The physical boundaries between city and country are becoming obscured by growth in rural areas surrounding population centers. Even in remote rural areas, advances in communication and transportation have served to diminish rural/urban differences. Fewer rural residents are engaged in agriculture or agriculture-related businesses. Nonagricultural employment opportunities have increased in many rural areas. In general, although change often occurs more slowly in rural areas, the rural population seems to be following the same normative trends as the urban population. However, it should be pointed out that some significant differences continue to maintain a distinction between rural and urban.

The structure of agriculture has also changed. A dramatic manifestation of this change is the increasingly dualistic nature of the agricultural structure. A small number of U.S. farms produce an increasing share of the agricultural goods and earn an increasing proportion of farm income. However, the vast majority of farms in the U.S. continue to be relatively small-scale, family-run operations.

Families involved in these small-scale operations are coming to rely increasingly on nonfarm sources of income.

In light of these significant changes, contemporary farm life becomes an important topic for research. The objectives of this dissertation were to analyze three aspects of contemporary farm life. The importance of the work-farming interface was recognized. A system of interdependent family, farm, and nonfarm work roles was identified. Specification of a system of roles sensitizes researchers to the need for considering the interdependence among roles and allows for identification of potentially important variables. Individuals interact within families, but also fill nonfamily roles which may be important in their family relationships. There is a need to consider an individual's work and family roles in relation to his or her other roles and other family members' roles. The work-farm-family role system was used as a basis for investigation into the three areas of farm life.

First, the parents' preference for passing on the farming occupation to a succeeding generation was analyzed. Relatively large farm size, indicative of the availability of resources, was found to be a significant predictor of wanting a son to farm. In addition to the availability of resources, the treatment of work, farm, and family roles as a system illustrates the potential importance of participation in off-farm work. Those who did not state a farming

preference spent a significantly larger percentage of time in off-farm labor. Further, involvement in work and family roles prior to participation in the current work-farm-family role system was shown to have an effect on the preference for a son to farm. The husband's previous occupation and wife's childhood place of residence were both found to influence the preference for a son to farm.

Second, satisfaction with farming was analyzed. Overall, couples reported high levels of satisfaction. Again, the identified system of roles was helpful in pointing to potentially important variables. Family and farm satisfaction appeared to be closely correlated. Particularly interesting was the extent to which the husbands' and wives' roles appeared to be interrelated. For example, when women work off the farm both husbands' and wives' satisfaction with farming is reduced. Results also indicated that differences in satisfaction do exist between those employed off the farm and those who are full-time farmers and farm women.

Third, the woman's participation in farm work was investigated. The major focus of this study was the extent to which participation in various roles within the work-farm-family role system influences participation in the farming role. For women on small farms (with annual gross sales of \$40,000 or less) the anticipated negative relationship between farm work and off-farm work was not found.

Women from small farms spent more time in farm work on the average than did women from larger farms. They were also more likely to work off the farm than women from larger farms. Farm men and women from small farms tend to specialize, as couples, in either farm work or off-farm work. However, a negative relationship was demonstrated between household labor and farm labor for women from small farms. On larger farms the anticipated negative relationship between off-farm work and farm work was demonstrated.

A major limitation of this research is perhaps that the data used were collected in 1977. Farm life has been changing rapidly even during the course of the dissertation work. The analysis does not allow for an understanding of the impact of the farm crisis on farm life. However, many of the changes that were in progress prior to the crisis are likely to continue, such as increased reliance on nonfarm sources of income, the increasing dualism of production agriculture, and the blurring of the rural/urban distinction. In spite of high losses in the number of farms and changed economies of small towns, those that remain in farming may continue to be affected by factors identified in the present analysis.

This research has attempted to begin to fill several gaps in the farm life literature and to provide further support for previous research. It should be pointed out that

several of the disclosed relationships, while statistically significant for this sample, were not particularly large, and caution should be used in making generalizations to the larger population. However, in addition to providing information about those who continue in farming, the research might also provide a basis for future research. These pre-crisis findings might be profitably compared with research analyses conducted in the future as one way to assess the impact of the current farm crisis.

REFERENCES

- Allen, D.
1985 "Three faces of agriculture." *Successful Farming* (February):12-14.
- Banks, V. J. and J. Z. Kalbacher
1981 *Farm Income Recipients and their Families: A Socioeconomic Profile*. Washington, D.C.: USDA, Economic Research Service, Rural Development Research Report No. 30.
- Barnes, L. B. and S. A. Hershon
1976 "Transferring power in the family business," *Harvard Business Review* 54(July/August):105-114.
- Beale, C. L.
1974 "Quantitative dimensions of decline and stability among rural communities." In L. R. Whiting (ed.), *Communities Left Behind: Alternatives for Development*. Ames, Iowa: Iowa State University.
- Bealer, R. C., F. K. Willits and W. P. Kuvlesky
1965 "The meaning of 'rurality' in American society: some implications of alternative definitions." *Rural Sociology* 30(September):255-266.
- Beck, E. M., P. M. Horan and C. M. Tolbert, II
1978 "Stratification in a dual economy: a sectoral model of earnings determination." *American Sociological Review* 43(October):704-720.
- Bharadwaj, L. and E. A. Wilkening
1974 "Occupational satisfaction of farm husbands and wives." *Human Relations* 26:739-753.
- Bibb, R. and W. H. Form
1977 "The effects of industrial, occupational, and sex stratification on wages in blue collar markets." *Social Forces* 55(June):974-996.
- Blau, P. M. and O. D. Duncan, with Andrea Tyree
1967 *The American Occupational Structure*. New York: Wiley.
- Blau, P. M., J. W. Gustad, R. Fessor, H. S. Parnes, and R. C. Wilcock
1956 "Occupational choice: a conceptual framework." *Industrial and Labor Relations Review* 9(July): 531-543.

- Bokemeier, J. L., C. Sachs and V. Keith
 1982 "Labor force participation of metropolitan, non-metropolitan, and farm women: a comparative study." *Rural Sociology* 48(4):515-539.
- Boulding, E.
 1980 "The labor of U.S. farm women: a knowledge gap." *Sociology of Work and Occupations* 7 (August):261-290.
- Brown, D. and J. M. O'Leary
 1979 *Labor Force Activity of Women in Metropolitan and Nonmetropolitan America*. Washington, D.C.: USDA, Economics, Statistics, and Cooperative Service, Rural Development Research Report 15.
- Buckley, W.
 1967 *Sociology and Modern Systems Theory*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Burchinal, L. G.
 1962 *Career Choices of Rural Youth in a Changing Society*. Minneapolis, Minnesota: Agricultural Experiment Station, University of Minnesota, North Central Regional Publication, Nos. 1 and 2.
- 1964 "The rural family of the future." Pp. 159-206 in James H. Copp (ed.), *Our Changing Rural Society: Perspectives and Trends*. Ames, Iowa: Iowa State University.
- Buttel, F. H.
 1982 "The political economy of part-time farming." *Geo Journal* 6(4):293-300.
- 1983 "Beyond the family farm." Pp. 87-107 in G. F. Summers (ed.), *Technology and Social Change in Rural Areas*. Boulder, Colorado: Westview.
- Buttel, F. H. and G. W. Gillespie, Jr.
 1984 "The sexual division of farm household labor: and exploratory study of the structure of on-farm and off-farm labor allocation among farm men and women." *Rural Sociology* 49(2):183-209.
- Carlin, T. A. and J. Crecink
 1979 "Small farm definition and public policy." *American Journal of Agricultural Economics* 61(December):933-939.

- Carlin, T. A. and L. M. Ghelfi
 1979 "Off-farm employment and the farm structure."
 Pp. 270-273 in Structure Issues of American
 Agriculture. Washington, D.C.: USDA, Economics,
 Statistics, and Cooperative Service, Agricultural
 Economics Report 438.
- Carter, L. F.
 1971 "Inadvertant sociological theory." Social Forces
 50(September):12-25.
- Caston, R. J. and R. Braito
 1985 "A job satisfaction issue in job satisfaction
 research: what happens to job satisfaction
 models when workers place high value on increasing
 their satisfaction?" Sociological Perspectives
 28(April):175-197.
- Cavazzani, A.
 1977 Part-Time Farming in Advanced Industrial Socie-
 ties: Role and Characteristics in the United
 States. Ithaca, New York: Cornell University,
 Department of Rural Sociology, Bulletin No. 106.
- Coughenour, C. M. and A. V. Gabbard
 1977 Part-Time Farmers in Kentucky in the Early 1970s:
 The Development of Dual Careers. Lexington:
 University of Kentucky, Department of Sociology
 RS-54.
- Coughenour, C. M. and G. S. Kowalski
 1977 "Status and role of fathers and sons on partnership
 farms." Rural Sociology 42(Summer):180-205.
- Coughenour, C. M. and L. Swanson, Jr.
 1983 "Work statuses and occupations of men and women
 in farm families and the structure of farms."
 Rural Sociology 48(Spring):23-43.
- Coughenour, C. M. and R. C. Wimberly
 1982 "Small and part-time farmers." Chapter 34 in
 D. A. Dillman and D. J. Hobbs (eds.), Rural
 Society in the U.S.: Issues for the 1980s.
 Boulder, Colorado: Westview.
- D'Arcy, C., J. Syrotuik and C. M. Siddique
 1984 "Perceived job attributes, job satisfaction, and
 psychological distress: a comparison of working
 men and women." Human Relations 37(8):603-611.

- Deseran, F. A., W. W. Falk and P. Jenkins
 1984 "Determinants of earnings of farm families in the U.S." *Rural Sociology* 49(2):210-229.
- Falk, W. W.
 1982 "Rural youth and the labor force." In D. A. Dillman and D. J. Hobbs (eds.), *Rural Society in the U.S.: Issues for the 1980s*. Boulder, Colorado: Westview.
- Faunce, W. A. and R. Dubin
 1975 "Individual investment in working and living." In L. E. Davis and A. B. Chuns (eds.), *The Quality of Working Life (Vol. I)*. New York: Free Press.
- Fein, M.
 1976 "Motivation for work." In R. Dubin (ed.), *Handbook of Work, Organization, and Society*. Chicago: Rand McNally.
- Fite, G. C.
 1981 *American Farmers: the New Minority*. Bloomington, Indiana: Indiana University.
- Flora, C. B.
 1981 "Farm women, farming systems, and agricultural structure: suggestions for scholarship." *The Rural Sociologist* 1(November):383-386.
- Friedlander, F. and N. Margulies
 1969 "Multiple impacts of organizational climate and individual value systems upon job satisfaction." *Personnel Psychology* 22(Summer):171-183.
- Fuguitt, G. V.
 1959 "Part-time farming and the push-pull hypothesis." *American Journal of Sociology* 64:375-379.
- Fuller, A. M. and J. A. Mage (eds.)
 1976 *Part-time Farming: Problem or resource in Rural Development*. Proceedings of the First Rural Geography Symposium, University of Guelph, Ontario. Norwich, England: Geo Abstracts.
- Gordon, D. M.
 1972 *Theories of Poverty and Underemployment*. Lexington, Massachusetts: Heath.

- Gurin, G., J. Veroff and S. Feld
1960 Americans View their Mental Health. New York: Basic Books.
- Hall, D. T. and K. E. Nougaim
1968 "An examination of Maslow's need hierarchy in an organizational setting." Organizational Behavior and Human Performance 3(February):12-35.
- Haller, A. O. and W. Sewell
1967 "Occupational choices of Wisconsin farm boys." Rural Sociology 32:37-56.
- Hawley, A. H. and S. M. Mazie
1981 "An overview." Pp. 3-23 in A. H. Hawley and S. M. Mazie (eds.), Nonmetropolitan America in Transition. Chapel Hill: University of North Carolina.
- Hedley, M. J.
1976 "Independent commodity production and the dynamics of tradition." Canadian Review of Sociology and Anthropology 13(4):413-421.
- Heffernan, W. D., G. Green, R. P. Lasley and M. F. Nolan
1981 "Part-time farming and the rural community." Rural Sociology 46:245-262.
- Herzberg, F., B. Mausner and B. B. Snyderman
1959 The Motivation to Work. New York: Wiley.
- Hoiberg, E. and G. Bultena
1983 "Farmers' job satisfaction high, outlook for agricluture guarded." Agri Marketing (June): 36-40.
- Huffman, W. E.
1976 "The productive value of human time in U.S. agriculture." American Journal of Agricultural Economics 58(November):672-683.
- Ivancevich, J. M. and J. H. Donnelly, Jr.
1975 "Relation of organizational structure to job satisfaction, anxiety-stress, and performance." Administrative Science Quarterly 20(June):272-280.
- Jones, C. and R. A. Rosenfeld
1981 American Farm Women: Findings from a National Survey. Chicago: National Opinion Research Center.

- Kanter, R. M.
 1977 *Work and Family in the United States: a Critical Review and Agenda for Research Policy*. Beverly Hill, California: Russell Sage Foundation.
- Kauppinen-Toropainen, K., I. Kandolin and P. Mutanen
 1983 "Job dissatisfaction and work-related exhaustion in male and female work." *Journal of Occupational Behaviour* 4:193-207.
- Kohn, M. L. and C. Schooler
 1973 "Class, occupation, and orientation." *American Sociological Review* 34(October):659-678.
- Kuvlesky, W. P. and R. C. Bealer
 1966 "A clarification of the concept 'occupational choice.'" *Rural Sociology* 31(September):265-276.
- Larson, O. F.
 1981 "Agriculture and the community." Pp. 147-193 in A. H. Hawley and S. M. Mazie (eds.), *Nonmetropolitan America in Transition*. Chapel Hill, North Carolina: University of North Carolina.
- Lewis, R. A. and G. B. Spanier
 1979 "Theorizing about the quality and stability of marriage." Pp. 268-294 in W. R. Burr, R. Hill, F. I. Nye, I. L. Reiss (eds.), *Contemporary Theories about the Family* (Vol. I). New York: Free Press.
- Lipset, S. M.
 1955 "Social mobility and urbanization." *Rural Sociology* 20(September-December):203-226.
- Locke, E. A.
 1976 "The nature and causes of job satisfaction." In M. D. Dunnette (ed.), *Handbook of Industrial and Organizational Psychology*. Chicago: Rand McNally.
- Lyson, T. A.
 1978 "Career plans of farm-reared boys: a cross-cultural study." *International Journal of Comparative Sociology* 19(December):271-281.
- 1979 "Going to college: an emerging rung on the agricultural ladder." *Rural Sociology* 44(Winter):773-90.

- Lyson, T. A.
1982 "Stability and change in farming plans: results from a longitudinal study of young adults." *Rural Sociology* 47(3):544-556.
- Maret, E. and J. H. Copp
1982 "Some recent findings in the economic contributions of farm women." *The Rural Sociologist* 2(March):112-115.
- Marks, S. R.
1977 "Multiple roles and role strain: some notes on human energy, time, and commitment." *American Sociological Review* 42(December):921-936.
- Molnar, J. J. and J. E. Dunkelberger
1981 "The expectation to farm: an interaction of background and experience." *Rural Sociology* 46(1):62-84.
- Morrissey, M.
1982 "The dual economy and labor market segmentation: a comment on Lord and Falk." *Social Forces* 60(March):883-890.
- Mortimer, J. T.
1979 *Changing Attitudes toward Work*. Scarsdale, New York: Work in America Institute.
- Mortimer, J. T. and J. Lorence
1979 "Work experience and occupational value socialization: a longitudinal study." *American Journal of Sociology* 84(May):445-455.
- Murray, M. A. and T. Atkinson
1981 "Gender differences in correlates of job satisfaction." *Canadian Journal of Behavioral Science* 13:44-52.
- Newman, J. E.
1975 "Understanding the organizational structure: job attitude relationships through perceptions of the work environment." *Organizational Behavior and Human Performance* 14(December):371-397.
- Norusis, M. J.
1985 *SPSS-X Advanced Statistics Guide*. Chicago: McGraw Hill.

- Pavalko, R. M.
1971 Sociology of Occupations and Professions. Itasca, Illinois: F. E. Peacock.
- Pearson, J.
1979 "Note on female farmers." Rural Sociology 44(Winter):189-200.
- Pennings, J. M.
1970 Participation, Achievement, and Involvement on the Job. Englewood Cliffs, New Jersey: Prentice-Hall.
- Pleck, J.
1977 "The work-family role system." Social Problems 84(4):417-427.
- Pond, S. B., III and S. B. Green
1983 "The relationship between job and marriage satisfaction within and between spouses." Journal of Occupational Behavior 4(April):145-155.
- Poole, D. L.
1981 "Family farms and the effects of farm expansion on the quality of marital and family life." Human Organization 40(Winter):344-349.
- Quinn, R. P., G. L. Staines and M. R. McCullough
1979 "Job satisfaction: is there a trend?" Washington, D.C.: Manpower Administration, Manpower Research Monograph No. 30.
- Sawyer, B. J.
1973 "Predictors of the farm wife's involvement in general management and adoption decisions." Rural Sociology 38(Fall):412-425.
- Seashore, S. E. and T. D. Taber
1975 "Job satisfaction indicators and their correlates." American Behavioral Scientist 18(January/February): 333-368.
- Sieber, S. D.
1974 "Toward a theory of role accumulation." American Sociological Review 39(August):567-578.
- Smith, W. M., Jr. and R. T. Coward
1981 "The family in rural society: images of the future." Pp. 221-229 in R. T. Coward and W. M. Smith, Jr. (eds.), The Family in Rural Society. Boulder, Colorado: Westview.

- Srivastva, S., P. F. Salipante, Jr., T. G. Cummings, W. W. Notz, J. D. Bigelow and J. A. Waters
 1977 Job Satisfaction and Productivity. Kent, Ohio: Kent State University, Comparative Administrative Research Institute.
- Straus, M. A.
 1956 "Personal characteristics and functional needs in the choice of farming as an occupation." Rural Sociology 21(September/December):257-266.
- Straus, M. A.
 1964 "Societal needs and personality characteristics in the choice of farm, blue-collar, and white-collar occupations by farmers' sons." Rural Sociology 29(December):408-425.
- Strauss, G.
 1974 "Workers: attitudes and adjustments." Pp. 73-98 in J. M. Rosow (ed.), The Worker and the Job: Coping with Change. Englewood Cliffs, New Jersey: Prentice-Hall.
- Summers, G. F. and J. M. Lang
 1982 "Bringing jobs to people: does it pay?" Small Town 7(3):4-11.
- Tannenbaum, A. S., B. Kavcic, M. Rosner, M. Vianello and G. Wieser
 1974 Hierarchy in Organizations. San Francisco: Jossey-Bass.
- U.S. Bureau of the Census
 1981 1978 Census of Agriculture, Summary and State Data, United States. Washington, D.C.: U.S. Department of Commerce.
 1982 Statistical Abstract of the United States 1982-83. 103 Ed. Washington, D.C.: U.S. Department of Commerce.
- U.S. Department of Agriculture
 1981 Agricultural Prices: Annual Summary 1980. Washington, D.C.: U.S. Department of Agriculture.
 1982 Farm Population of the United States: 1981. Washington, D.C.: U.S. Bureau of Census, Current Population Reports, Series P-27, No. 55.

- U.S. Department of Agriculture
 1983 Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics. Washington, D.C.: U.S. Department of Agriculture.
- Vogeler, I.
 1981 The Myth of the Family Farm. Boulder, Colorado: Westview.
- Wilkening, E. A.
 1981a "Farm families and family farming." Pp. 27-37 in R. T. Coward and W. M. Smith, Jr. (eds.), The Family in Rural Society. Boulder, Colorado: Westview.
- 1981b Farm Husbands and Wives in Wisconsin: Work Roles, Decision-Making and Satisfactions, 1962 and 1979. Madison, Wisconsin: University of Wisconsin, College of Agricultural and Life Sciences, Research Division, Report R3147.
- Wilkening, E. A. and L. Bharadwaj
 1967 "Dimensions of aspirations, work roles, and decision making of farm husbands and wives in Wisconsin." Journal of Marriage and the Family 29:703-711.
- 1968 "Aspirations and task involvement as related to decision-making among farm husbands and wives." Rural Sociology 33:30-45.
- Wright, J. D. and R. F. Hamilton
 1978 "Work satisfaction and age: some evidence for the job change hypothesis." Social Forces 56(June):1140-1158.

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